SYSTEMATIC OFFERING OF FAMILY PLANNING AND REPRODUCTIVE HEALTH SERVICES IN GUATEMALA

Prepared by
POPULATION COUNCIL• S INOPAL III PROJECT and
COOPERATIVE AGREEMENT No. 520-0357-A-00-4169-00

Ricardo Vernon
Emma Ottolenghi
Jorge Solórzano
Luis Roberto Santamarina

and

MINISTRY OF HEALTH OF GUATEMALA

Juan José Arroyo
Clara Luz Barrios

Guatemala City, Guatemala, April 1997.

SUMMARY

Guatemala has one of the lowest contraceptive prevalence rates in Latin America. Only 31% of married women of fertile age use a family planning method, and only 27% use a modern method. Thirty seven percent of women do not want more children and 21.5% do not want one in the following two years. The 218 MOH health centers and 667 health posts provide services to only 3.2% of current contraceptive users (ENSMI, 1995). The unmet need for other reproductive health services is also very large.

The main objectives of this project were a) to test the use of a job aid (an algorithm) to help MOH service providers to screen their clients• reproductive health needs, offer the required services and thus, increase the volume of services provided; and b) to test the use of job aids (segmentation forms) to help health volunteers to segment the population according to reproductive health needs, to give them basic messages to help them solve their need for services, and to refer them to services in health posts.

A survey of missed opportunities for the delivery of reproductive health services found that these were few in the case of services that the MOH has traditionally emphasized (such as prenatal care and vaccination), but large in the case of family planning: 35% of all women of reproductive age visiting health centers were married, not pregnant, did not want a pregnancy and were not using a method, and 24% of all women said they would like to use a method.

The algorithm seems to have been used asystematically in health centers and to have been perceived by health providers as a tool to promote family planning. For this reason, those who used it tended to adapt it for promoting family planning and not the other reproductive health services.

In the last nine months of 1996, the health outlets that used the algorithm had 124% more new family planning than in 1995, compared with an increase of 21% in control group outlets. In terms of couple years of protection (CYP), control group outlets decreased their number by 64%, while experimental group outlets increased it by 41%. Partly, these large increases were due to the introduction of injectables during the project period. The differences observed in the case of other reproductive health services (prenatal care, post-natal care and well baby care) were not as consistent as those observed for family planning.

These results showed that there is a need to teach service providers to screen their clients• need for reproductive health needs, and that the job aid tested is useful to achieve this objective. Areas of improvement could include an adaptation of the algorithm so that providers perceive it as a reproductive health rather than a family planning tool, as well as the introduction of training and supervision strategies to strengthen the commitment of program managers to the reproductive health program.

The results also showed that the segmentation forms could be used to recruit health volunteers to provide basic messages and refer users to health posts. The data suggests that health posts using the forms had a larger increase in the number of new family planning clients than those that did not use them, but that this was not true in the case of other reproductive health services. Given the weak community outreach program in Guatemala, this strategy should be extended through the MOH system. It should also be expanded so that new services can be incorporated in the segmentation forms.

TABLE OF CONTENTS

LIST OF FIGURES

SYSTEMATIC OFFERING OF FAMILY PLANNING AND REPRODUCTIVE HEALTH SERVICES IN GUATEMALA

I. INTRODUCTION

Guatemala's population is about ten million inhabitants and is growing at an estimated 2.9% per year. The country is one of the least urbanized in Central America, with 59% living in rural areas (i.e., in localities less than 2,500 inhabitants)(UNICEF, 1995). Another unique characteristic of the country is that a significant proportion of the population is indigenous (40%). This segment of the population speaks 23 different languages and has conserved its cultural traditions (FNUAP, 1995).

In terms of reproductive health, Guatemala has a total fertility rate of 5.1 (3.7 in urban areas and 5.9 in rural areas) and an infant mortality rate of 57 per thousand (49 in urban areas and 60 in rural areas). The contraceptive prevalence rate of married women of fertile age is of 31.4%, of which 26.9% is of modern methods and the remainder of traditional methods. Use of methods is more than twice more likely in urban than in rural areas and four times more likely among Spanish speaking women (43%) than among indigenous women (10%) (ENSMI 95). During the period from 1990 to 1992, maternal mortality was estimated at 27 pregnancy related deaths/10,000 live births. In 1987, the contraceptive prevalence rate was estimated at only 23%, and in 1978 at 19% (ENSMI,1987). Thus, although contraceptive use has been increasing over the last two decades, the rate of increase has been quite modest.

The largest provider of health services in Guatemala is the Ministry of Health (MOH): it has an infrastructure of 29 general hospitals, 218 health centers and 667 health posts attended by auxiliary nurses (MSPAS, 1989). The MOH service infrastructure is organized administratively into twenty four health areas. Each of these health areas, known as *jefaturas*, is managed by an Area Chief whose responsibility is to monitor and coordinate activities between the various hospitals, health centers and health posts falling under his or her jurisdiction. In addition to the Area Chief, who is a physician, the staffing of the Jefatura, located in the capital or main city of each Guatemalan department, consists of a nurse, a social worker, a rural health technician (RHT), an expert in environmental health, a book-keeper, and one or two administrative personnel. Each member of this team or group supervises activities of the personnel with similar training in the health districts. Thus, the nurse at the Jefatura level supervises activities of all the nurses in her health area, the rural health technician all the technicians in his area, and so on.

Each health area typically consists of between three and fifteen districts. A district is defined as a health center and its surrounding health posts (MSPAS-DGSS, 1989). At the district level, a physician, based in a health center, takes on the role of District Chief and is responsible for managing and supervising activities at that center and the corresponding health posts; there is an average of four health posts per health center, although a health district may have as few as one post or as many as 13. At the health centers, family planning services are provided either by the nurse or, more frequently, by nurse auxiliaries. At health posts, family planning and all other health services are provided by auxiliary nurses, who are routinely supervised by the nurse of the health center. Health Centers provide pills, condoms, vaginal tablets and IUDs, whereas health posts only have available pills, condoms and vaginal

tablets. Clients requesting permanent methods at health centers or posts are referred to those hospitals that provide this service, or to other service providers who do, mostly, APROFAM.

II. DESCRIPTION OF THE PROBLEM

Historically, the MOH has had a weak family planning program, both in organizational terms and political support. In 1986, a Family Planning Unit, later renamed Reproductive Health Unit (RHU), was established and family planning began to be conceptualized as an additional tool to improve maternal and child health. This led to a rapid increase in the number of contraceptive users in health centers and posts. However, starting in 1992, internal MOH problems practically paralyzed the activities of the RHU and, as a consequence, the supply of contraceptives and training of personnel decreased considerably. Perhaps nothing illustrates better the poor performance of MOH health centers and posts than the fact that they provide family planning methods to only 3.2% of current contraceptive users in Guatemala (ENSMI 1995).

This poor performance of health centers and posts as providers of family planning services is all the more disappointing because a few studies have shown that there is a large unmet need for family planning services in communities with health centers and posts. For example, a situational analysis conducted in eight districts showed that although 57% of the women living in a radius of 15 blocks from the health center or post did not want more children, only 13% were using a contraceptive method. Of these women, only two percent knew family planning was offered in the health center or post. Likewise, 48% of women attending health centers and posts for non-family planning reasons knew family planning services were available there. Although service providers often state that women reject or oppose family planning, 76% of the women interviewed in the communities said they approved of it. Finally, there is at least some indication that the quality of the few services provided is far from optimal. For example, of active family planning users serviced by health centers, about half do not want any more children. Yet, of these, 70% are using pills or condoms. A large proportion of these would have liked to use the IUD or sterilization, but had not been able to get it for lack of information or access (MSPAS, 1993). What explains the poor performance of MOH health centers and posts? As mentioned before, the political support has been almost non-existent. This, of course, is translated in a very low priority assigned to family planning by Area and District chiefs, which is shown in the lack of follow-up, lack of training and lack of interest and commitment shown generally across the system. In addition, the family planning program shares with all other programs the very weak organizational capabilities found at the MOH, a weakness that is translated in very poor supply and logistics, training, supervision and out-reach systems. For this reason, compliance with norms is hard to enforce. In addition, for either ideological or religious reasons, a large proportion of service providers have negative attitudes towards family planning and actively oppose it.

The problem this project sought to solve was how to increase the real and perceived availability of family planning services in the context described above.

III. PROBLEM SOLUTION

The results from the situational analysis conducted by the MOH in 1993 suggest that a large number of new family planning clients could be served by systematically assessing the reproductive intentions of clients of health centers and posts, and by offering and providing contraceptive methods to those not wishing a pregnancy in the near future. This could be accomplished by developing a job aid to help service providers screen clients for their contraceptive needs and by training the providers in their use. Such a strategy would be ideal in the sense that it would require only minimal further effort from the overburdened staff in health centers and posts.

However, given the MOH• s policy of providing comprehensive reproductive health care, such a job aid should screen the client´s family planning needs, but also the needs for all the other reproductive health needs that can be met with the services offered by the MOH in Guatemala. These include prenatal and postnatal care and lactation, well baby care and immunizations (other reproductive health services, such as diagnosis and treatment of STDs and cervical and breast cancer prevention are seldom available in health centers in Guatemala). By adding these other services, the job aid would be congruent with Guatemalan official policies and would be likely to generate a greater support for promoting family planning among service providers.

The disadvantage of such a strategy, however, would be that only those already attending MOH health centers and posts would benefit from the reproductive health services available. There would also seem to be a need for testing a strategy for promoting reproductive health services in the communities. Perhaps this can be accomplished by developing job aids to help health volunteers identify the need for reproductive health services among community inhabitants, and to give them advise about these services.

IV OBJECTIVES

The objectives of this project were:

1. Develop a job aid (algorithm) to help service providers in screening their clients• need for reproductive health services and evaluate the effects of training the staff in its use;

2. Develop and test a job aid (segmentation forms) to help health volunteers in screening for the need of reproductive health services among community inhabitants, and referring to health posts those needing these services.

V. OPERATIONS RESEARCH

5.1 Selection of Participating Districts, Health Centers and Health Posts

Project activities were conducted in the largely indigenous health areas covering the Departments of Quetzaltenango and San Marcos.

In order to test the algorithm, a meeting with all health district directors was held at the beginning of project activities. In total, there are 14 health districts in San Marcos (i.e, 14 health centers and 72 dependent health posts) and 13 districts in Quetzaltenango (13 health centers and 46 health posts). After explaining the purpose of the project, district directors were invited to participate. Even though it was wished that only committed district directors participated in the project, in Quetzaltenango a group dynamics phenomena put pressure in several uninterested directors to participate, and 12 of the 13 district directors decided to participate. In contrast, in San Marcos, only six of the 13 district directors decided to participate in the project.

In this way, 18 health districts were selected for participation in the project. Of these, 12 were randomly assigned to the experimental group (where the algorithm and guide were used) and the remainder six were assigned to the control group (where new instruments were not introduced). Table 1 presents a list of the districts, health centers and health posts participating in the experiment.

To test the use of segmentation forms to promote reproductive health services, eight health districts in Quetzaltenango were selected according to the interest of district directors. Five of these districts were in the experimental group in the test of the algorithm. In these, one health post was randomly selected in each district. The remaining five health posts were randomly selected from all the health posts in the three districts that were in the control group in the test of the algorithm. Districts in San Marcos were excluded from this experiment because at the time, the Area Chief was interested in testing a different community-based strategy (which was finally not implemented). Table 2 presents a list of health posts and districts participating in this experiment. The remaining health posts in each of the participating districts served as a control group.

5.2 Preparatory and Implementation Activities to Test the Algorithm for the Systematic Offer of Reproductive Health Services

5.2.1 *Development of an algorithm and training guide for offering reproductive health services in a systematic fashion.*

The first activity that was conducted was the development of an algorithm and training guide for the systematic offer of reproductive health services. The first task was to select the services that were going to be included in the algorithm. It was decided that the algorithm a) should focus on married women of reproductive age, and b) to know which services should be offered, the algorithm should identify stages in the life cycle of the woman. In addition, the algorithm, as well as the training guide, should be consistent with the Official Service Delivery Norms for Maternal Child Health Services of the Ministry of Health of Guatemala.

The Algorithm:

The algorithm that was finally developed is presented iwn Figure 1. As it can be seen, the algorithm is based on a series of seven questions that require yes/no answers. Depending on the answer, the algorithm leads either to a new question or to the services that should be offered to the woman.

The first question seeks to determine if the woman is sexually active. In the case of those who are not, the algorithm instructs to inform about existing services for women and children, so that when the woman needs them, she will know they are available in the health center or post.

Women who are married or in union are asked if they are pregnant. If they are, the provider needs to check if she is attending prenatal care and either provide the service or remind her of her appointment. If the woman is not pregnant, she is asked if she has had a birth in the last two months. In this case, her need for post-partum services is assessed. Those who have not had a recent birth are asked if they have a child less than one year old. If so, breast-feeding knowledge and practices are checked, as well as attendance to well baby care, immunizations for the child, and use of family planning for the mother.

Women who do not have a child less than one year old are asked if they would like to get pregnant during the following year. If they do, their reproductive risk factors are assessed (as the Official Guatemalan Norm instructs). If the woman has risk factors, she is advised to use family planning. If not, the woman is asked to return for prenatal care as soon as she becomes pregnant. If the woman does not want to become pregnant, she is asked if she is currently using a contraceptive method. For those using family planning, satisfaction with, counter indications for and correct use of the method are assessed. If not using a method, she is asked if she would want to use one. If she does, her reproductive intentions are assessed and either temporary or long lasting methods are offered. If the woman does not want a method, then the providers assess why is it she does not want a method despite the fact she does not want to become pregnant.

The Guide:

In order to facilitate training in the use of the algorithm and the learning of the technical contents needed to offer the different services, a training guide or manual was produced. The manual is presented as Appendix 1.

FIGURE 1

ALGORITHM FOR THE SYSTEMATIC OFFER OF REPRODUCTIVE HEALTH SERVICES

PROVIDE REQUESTED CARE. THEN ASK	
ARE YOU MARRIED OR IN UNION (ARE YOU SEXUALLY ACTIVE)? YES NO ----->	INFORM OF SERVICES: 1. Family planning and contraceptive methods 2. Prenatal and post-partum care. 3. Services for children 4. Sex education
ARE YOU PREGNANT? NO YES ------>	CHECK: 1. Attendance to prenatal care
HAVE YOU HAD A BIRTH THE LAST 2 MONTHS? NO YES ----->	1. PROVIDE POST-PARTUM SERVICES 2. ASK: IS YOUR CHILD ALIVE? NO --> Advise and provide family planning YES ---> CHECK: 1. Lactation 2. Well baby care 3. Immunizations 4. Family planning
DO YOU HAVE A CHILD LESS THAN ONE YEAR OLD? NO YES ----->	CHECK: 1. Lactation 2. Well baby care 3. Immunizations 4. Family planning
DO YOU WANT A PREGNANCY IN THE FOLLOWING YEAR? NO YES ----->	CHECK REPRODUCTIVE RISK: YES ---> ADVISE FP NO ----> RECOMMEND PRENATAL CARE
ARE YOU USING A METHOD? NO YES ----->	CHECK: 1. Satisfaction with method 2. Secondary effects 3. Absolute counter indications 4. Correct use
DO YOU WANT A METHOD? NO YES ------>	DETERMINE REPRODUCTIVE INTENTIONS: SPACING--> advise and provide temporary methods LIMITING--> Advise and provide long lasting method. Provide temporary method in the meantime
DETERMINE WHY SHE DOES NOT WANT A METHOD AND PROVIDE EDUCATION: - Ask for reasons and provide a solution if possible - Educate about the benefits of family planning - Verify risk factors/ Explain the risks the woman has - Assure her of the availability of family planning services whenever she wants them..	

The manual is organized according to the algorithm. For each set of services listed at the right of each question, there is one chapter. The title of the chapter is related to the question on the left-hand side in the algorithm. Thus, the title of the first chapter is • The woman is not sexually active,• and the title of the second chapter is • The woman is pregnant.•

In each chapter, a series of questions that may be answered with a yes or no question is asked. For each answer, a series of actions are suggested. In as much as possible, the manual seeks to present all the information required for providing the suggested services in one single chapter. Also, in as much as possible, counseling techniques were incorporated into the suggested flow of actions to provide the services.

It should be mentioned that there were two main sources of information for this guide: The Guatemalan Maternal and Child Health Service Delivery Norms (MSPAS, 1988), and The • ABC de la Atención Básica de Planificación Familiar• (The ABC for Basic Family Planning Care•) (León, 1994), an interactive booklet developed and tested as part of different INOPAL II projects. Indeed, chapters 7-10 of the manual come almost entirely from the ABC, as well as the basic idea to present the technical contents organized as a decision tree.

It should also be mentioned that while in the case of family planning the information presented is very ample, in the case of other services, the information presented is mostly a reminder of things to do without getting to much into how to do these things. For example, in the case of prenatal care, the list of actions to be done in each visit is presented, but how to carry out each of these actions is not discussed. It was expected that in this case, the service delivery norms would serve as a point of reference for the service providers.

5.2.2 Rapid assessment and standardization of service delivery conditions:

Before training activities were started, the 18 participating health districts were visited in order to assess differences in the delivery of family planning services.

In terms of the availability of contraceptive methods, the most important difference found in this assessment was that in nine health centers the IUD was not available because no staff member had been trained. To solve this problem, agreements were made with APROFAM and with the MOH to train staff members from these health centers during the course of the project. A total of five physicians and six professional nurses were trained in the insertion of IUDs.

In terms of training in family planning, it was observed that nearly a third of the service delivery staff had not received training in contraception, and a larger percentage on counseling. For this reason, it was decided that the training in the use of the algorithm would be accompanied with training on contraception, as explained in the following section.

5.1.3 Training in the use of the algorithm and in contraception.

Training in the use of the algorithm and in contraception was conducted in the months of February and March, 1996. Seven training sessions were conducted, two for control group districts and five for experimental group districts. Training was usually conducted in groups of three districts. In as much as possible, it was sought that all the service delivery staff of the health centers and health posts in the districts attended the training sessions.

The objectives of the training sessions were to a) standardize the knowledge of contraception of all service delivery staff; b) develop counseling skills of all participants; and c) standardize data collection procedures. Additional objectives in the training for the staff of experimental group districts were to a) introduce the algorithm for the systematic offer of reproductive health services; b) develop skills in the use of the algorithm; and c) define the systematic offer model to be used in each health center.

Project trainers included Drs. Berta Taracena and Felipe López, of the Reproductive Health Unit, Clara Luz Barrios, R.N,. who was the head nurse in the Quetzaltenango area and who was hired as project staff, and staff of the Population Council´s office in Guatemala, including Drs. Emma Ottolenghi, Luis Roberto Santamarina and Edwin Montufar.

Originally, it had been thought that in the training of the staff of the control group districts, the regular training course of the Reproductive Health Unit would be given, using the materials regularly used. However, the training team decided to use the sections on contraception included on the guide or manual developed as part of this project. Training for the staff of control group districts lasted two full days. Training for the staff of experimental group districts lasted two and one-half days. In the additional one-half day, the algorithm was presented and training on its use was provided.

Training was evaluated by means of a questionnaire that was applied at the beginning and at the end of the training sessions. The questionnaire is presented in Appendix 2.

Table 3 shows that a total of 192 MOH staff members received training. By far, the largest number of providers who received training were auxiliary nurses, followed by professional nurses and physicians. In this same table it can be observed that auxiliary nurses were the ones who showed the most improvement between the baseline and the endline questionnaires.

5.3 Preparatory Activities to Test the Use of Segmentation Forms to Promote Reproductive Health Services in Rural Communities

5.3.1 *Development of reproductive health segmentation forms.*

The second objective of this project was to develop a strategy and test the effects of promoting family planning and reproductive health services in communities through health volunteers. The strategy that was developed consisted in training health volunteers to use

• reproductive health segmentation forms• to help them identify the need for reproductive health services, to give short educational messages to women, and to refer them to the service delivery outlets where they could be cared for. .

Appendix 3 presents the three segmentation forms. The basic idea was that when the health volunteer arrived at a given home, the first activity he would conduct would be to classify married women (or in union) as belonging to any of three different groups: a) pregnant women; b) women with children less than one year of age; and c) women not pregnant and without a child less than one year of age (that we refer to in this report as • interval• women). Once classified, the woman is listed in the respective segmentation form, where the health volunteer can check for her need for services.

The segmentation form for pregnant women asks a) if the woman is attending prenatal care; b) if she had been vaccinated against tetanus; and c) if she has received education about family planning, care of the baby and danger signs during pregnancy. The form is included in a folder that presents the most salient points regarding all these topics, so that the volunteer can provide basic education to the woman.

The form for mothers of a child less than one year old asks if a) the mother is breast-feeding and has received education about lactation management; b) if the child has received his/her immunizations and the mother has received the appropriate education; c) if the mother knows danger signs and what to do in case of diarrheal disease and respiratory infections; and d) if she is using a family planning method. The form is also included in a folder presenting the basic messages.

Finally, the form for interval women asks if a) the woman has any problems with her breasts; b) if she has any problems with her menstrual periods; c) if she has vaginal flow; d) if she is using a contraceptive method; and e) if not, if she wishes to get pregnant during the following year. The form also asks if the mother has a child less than one year of age, so that a follow-up visit to provide the appropriate information is programmed.

Although the large size of the folders impede their presentation in Appendix 3, the educational messages included in the flaps of the folders are presented there.

5.3.2 Training in the use of segmentation forms

Training was conducted during July 3-5, 1996, in Quetzaltenango. Eight district professional nurses and two social workers attended the training sessions, as well as the health auxiliaries that were to train the community volunteers. During the training, a profile of the volunteers to be selected was presented (married woman over 25 years of age, with children, literate, who can speak the local language, who agrees with family planning and is not afraid to talk about this and other delicate topics); the proposed methodology; and the information system to be used. In each day, one of the three segmentation forms was studied in the morning and practiced in household visits in the afternoon.

The nurses and auxiliary nurses trained 67 community volunteers between July and August, 1996. These volunteers were trained in three sessions. In some cases, the sessions were

in three consecutive days, in others there were weekly sessions. In each session, a topic was discussed and an exercise was conducted. Data collection form exercises were also conducted.

The volunteers were asked to a) attend the three training sessions; b) conduct a minimum or two household visits per week; c) attend a monthly meeting at the health post with the nurse auxiliary. During these meetings, data on the activities would be reported, problems and experiences would be discussed and training in topics faced in the household visits would be provided.

5.4 Introduction of Depo-Provera

In the early stages of the project, Depo-Provera, the three month injectable, became available for the MOH in Guatemala. Given that Emma Ottolenghi, of the Council´s office in Guatemala, had carried out DMPA introductory activities in Guatemala with APROFAM and with other agencies in other other countries, it was decided that injectables should be introduced in experimental and control group health centers and posts.

The first introductory activity was a one-day seminar on Depo-Provera on the last day of February, 1996. Attendees included all the Area Directors of Quetzaltenango and San Marcos, their staff (area nurse and epidemiologist), the 18 district directors and district nurses, and a few nurse auxiliaries of outlying health posts. In addition, instructors of the nursing and medical schools in Quetzaltenengo, staff from APROFAM´s clinic, the director and residents of the MOH hospitals in Quetzaltenango and San Marcos, and other relevant persons were invited to the seminar.

Presenters in the seminar included the Area director, the Reproductive Health Unit director, and staff of the Council in Guatemala and of the Reproductive Health Unit. In the seminar, the characteristics of Depo-Provera were presented, training on counseling was given, and a plan for multiplying the training to the staff of health centers and posts were made. Training was replicated during the month of March. The district nurses and occasionally, the district physician, served as trainers. To conduct this training for all the health auxiliaries in the District, each health District was given a set of materials that included technical information on the different contraceptive methods and a training manual on Depo Provera.

The injectables themselves started being distributed to the health centers and posts between March and May, 1996.

5.5 Methodology

5.5.1 Design

For the test of the algorithm and training guide, a pretest-post-test control group design was employed.

For the test of the segmentation forms, a post-test only control group design was used.

5.5.2 Dependent Variables

The main dependent variables used to evaluate the interventions at health centers were the following:

a) Change in the number of family planning and other reproductive health services provided;

b) Degree to which clients were systematically offered family planning and other reproductive health services;

c) Degree to which opportunities for providing not requested but needed reproductive health services were used.

Dependent variables to be measured to evaluate the interventions at health posts/communities include the following:

- Number of reproductive health community volunteers recruited and trained
- Number of family planning and reproductive health services provided
- Number of persons advised and number referred to health post/center by community agents.

5.5.3 Sources of information

The following sources of information were used:

a) Service statistics: service statistics provided information on the number of family planning and other reproductive health services provided in health centers and posts. In Quezaltenango, these statistics were collected at health centers and health posts directly by project staff. In San Marcos, the statistics were collected at the Area office in San Marcos, where these statistics are routinely concentrated. The statistics were collected in August, 1996, and in January-February, 1997.

b) Exit interviews at health centers: in order to collect information on the degree to which reproductive health services were systematically offered to health center users, two rounds of exit interviews were conducted.

The first round was conducted in August, 1996. In this round, a total of 255 interviews were made. The second round was conducted in January, 1997. In this round, a total of 500 interviews were made. In both cases, in as much as possible, the interviewers tried to interview as many of the patients attending the health center during one or two days as possible. Different questionnaires were used in the first and second round. The second questionnaire made a more determined effort to assess the number of missed opportunities for reproductive health services, where as the first questionnaire made an attempt to follow the visits in terms of the algorithm flow. The questionnaires used in these surveys are presented as Appendices 4 and 5.

c) Qualitative interviews: in order to assess the use and perceptions of the algorithm by service providers, a total of 31 interviews were conducted with staff members of experimental group health centers and posts (22 nurse auxiliaries, four nurses, three physicians, one rural health technician and one secretary). The interviews were conducted by Dr. Jorge Solórzano, a consultant of the Population Council in Guatemala, during December, 1996, and January, 1997. Appendix 6 presents the Spanish language report of these qualitative interviews.

d) Project formats were used to report activities in the nine health posts participating in the segmentation experiment. These forms reported the number and characteristics of volunteers, the number of household visits, and the number of referrals to reproductive health services.

VI. RESULTS OF THE EXPERIMENT TESTING THE ALGORITHM

6.1 Exit Interviews in Health Centers

In order to assess if the algorithm was in fact being used in control group health centers, two rounds of exit interviews with married women of fertile age were conducted, the first in June-July, 1996, and the second one in November 1996 - January 1997. In the first round, interviewers remained for one day in the health center and sought to interview as many women leaving the health center as possible. A total of 255 interviews were made in this first round. In the second round, interviewers remained in the health center for two days, also trying to interview as many women who had received any kind of service as possible. In the second round, a total of 695 interviews were conducted. In both rounds, all experimental and control group health centers were visited.

Table 4 presents a summary of the main results of the first round of exit interviews. The questionnaire followed the flow of questions recommended by the algorithm. In this way, it was possible to classify the interviewees according to the box in the algorithm that they • belonged• to. Only five respondents were not married, 87 were pregnant, 22 had had a birth in the last two months, 73 had a child less than one year of age, 12 would like to become pregnant during the following year, 26 were using a method, 11 would like to use a family planning method, and 20 did not want to use a method even though they did not want to get pregnant and they were sexually active.

Respondents were asked if they had been asked the questions required by the algorithm to identify their reproductive health needs. As it can be observed, the proportion of women • screened• was not consistently larger in the experimental than in the control group: among pregnant women, similar percentages were screened in the control and in the experimental groups, and in the case of women who had a child under one year of age, a larger percentage of women in the experimental than in the control group were asked the series of questions needed to identify needed services. In other cases, the number of cases is rather small to draw a conclusion, but the proportion of women screened in the control group was larger than in the experimental group.

A second round of exit interviews was conducted between November, 1996 and January, 1997. The questionnaire used was substantially changed in order to determine more accurately the degree to which service providers explored the reproductive health needs of clients of health centers, and specially, the degree to which opportunities for providing needed services were lost. A total of 695 women were interviewed after their visit to the health centers. Four hundred and twenty nine of these women were interviewed in health centers where the providers had received training in the use of the algorithm (i.e., the experimental group), and the remainder in health centers where training had not been provided (i.e., the control group).

The basic idea behind the algorithm is that clients of health centers have a large variety of reproductive health care needs that should be taken into account by service providers, and that the algorithm can help service providers to detect those needs and provide the required care. In this fashion, we should expect that clients attending health centers where providers have been trained in the use of the algorithm should receive a larger number of additional services other than the one that motivated the women to attend the health center. Table 5 and Figure 2 show that women attending experimental group health centers were slightly more likely (11.2%) to receive a service other than the one that took them to the health center, than women visiting control group health centers (8.6%).

FIGURE 2
ONLY 10% OF THE WOMEN RECEIVED OTHER SERVICE THAN
THE ONE THAT TOOK THEM TO THE HEALTH CENTER

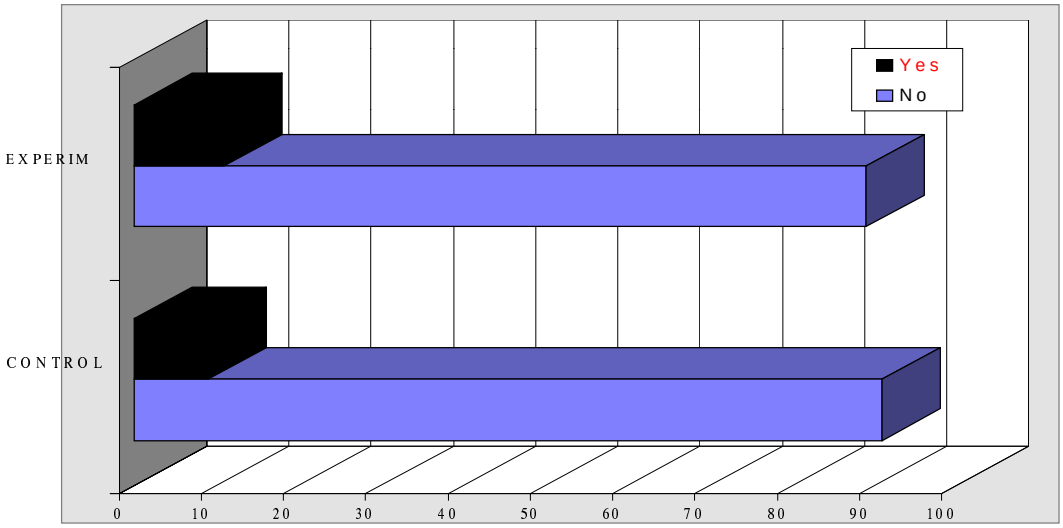
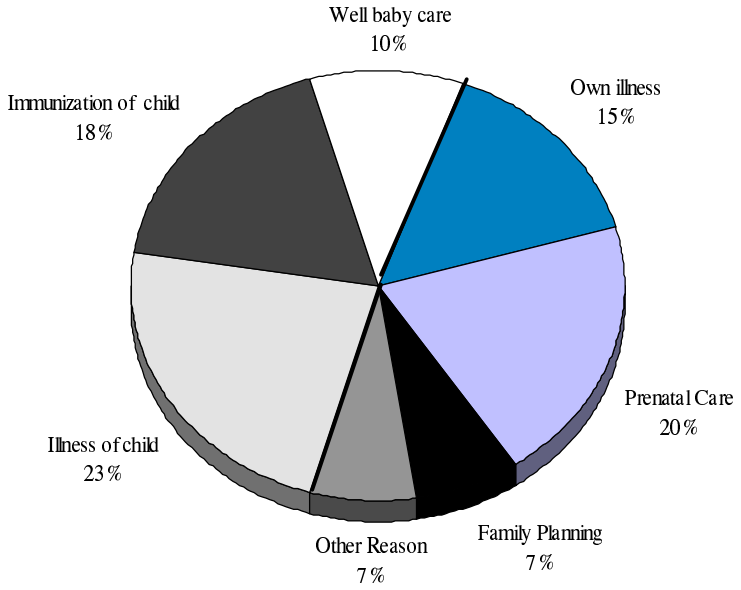


Table 6 and Figure 3 show the main reasons why the women interviewed attended the health center. As it can be seen, the main reasons were illness of a child (23%), prenatal care (20%), immunization of children (18%), personal illness (15%), and well baby care and family planning (10% and 8%, respectively). The most frequent additional services received were family planning (8 women), treatment of own illness (6 women), and pap test, treatment of a child• s illness and vaccination (4 women in each case). This shows that to avoid missing opportunities, all women attending the health center (and not only those directly receiving a service) should be screen for their reproductive health needs to avoid missing opportunities for service delivery.

The first question made by the algorithm is whether the woman is married, so that if she is not sexually active she may be informed of the services available for women and children she might obtain in the health center when she needs them. Table 7 and Figure 4 show that nearly

FIGURE 3

NEARLY ONE HALF OF WOMEN WENT TO THE HEALTH CENTERS TO TAKE THEIR CHILDREN



30% of all women interviewed did not know that family planning services were available. An important proportion of women did not know either of the availability of such strongly promoted services as well baby care (11%) and prenatal care (6%). Table 8 shows that there are only small differences in the knowledge of these services by women who are currently married or in union and those who are not. It also shows that service providers of both the experimental and control group failed to inform these women about these services during their visit to the health center..

Table 9 and Figure 5 show that 176 pregnant women were interviewed. Only 18 of these were in their first three months of pregnancy. Considering only the 158 women who had been pregnant for four months or more, we can see that 3.2% of them had not had any prenatal care,

and that 5.7% had not had prenatal care at the health center. In addition, nearly 15% of these women had not had one tetanus immunization shot.

FIGURE 4

PERCENT WOMEN ATTENDING HEALTH CENTERS WHO DO NOT KNOW ABOUT SERVICES AVAILABLE

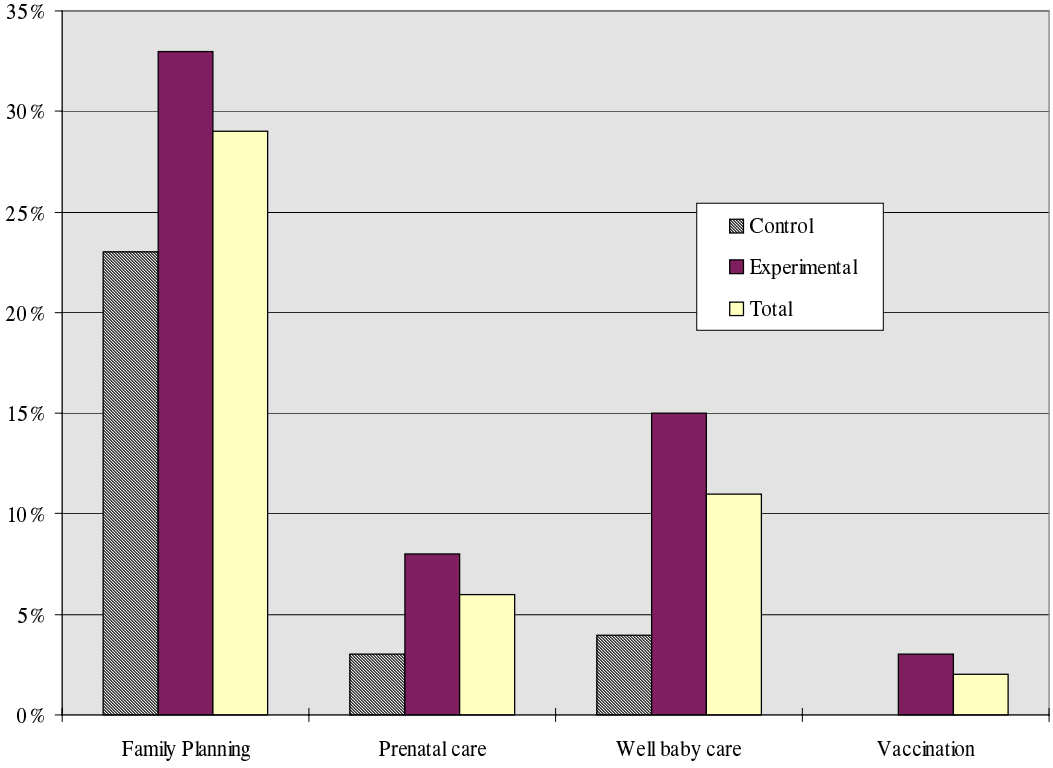


FIGURE 5

PERCENT WOMEN WITH MORE THAN THREE MONTHS OF PREGNANCY NEEDING SERVICES

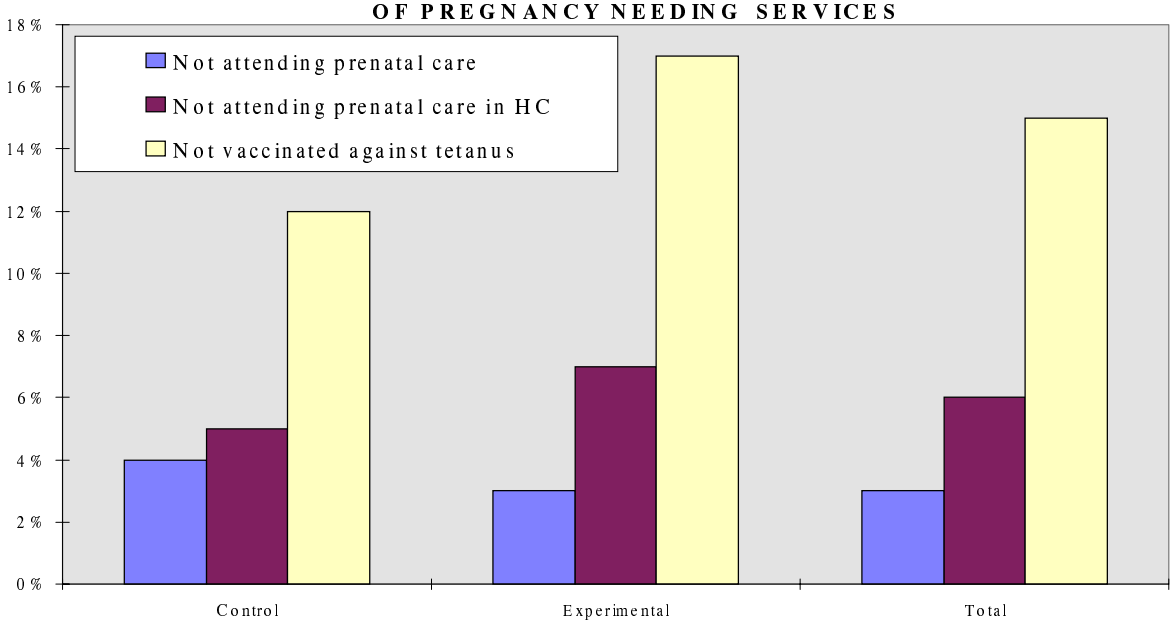
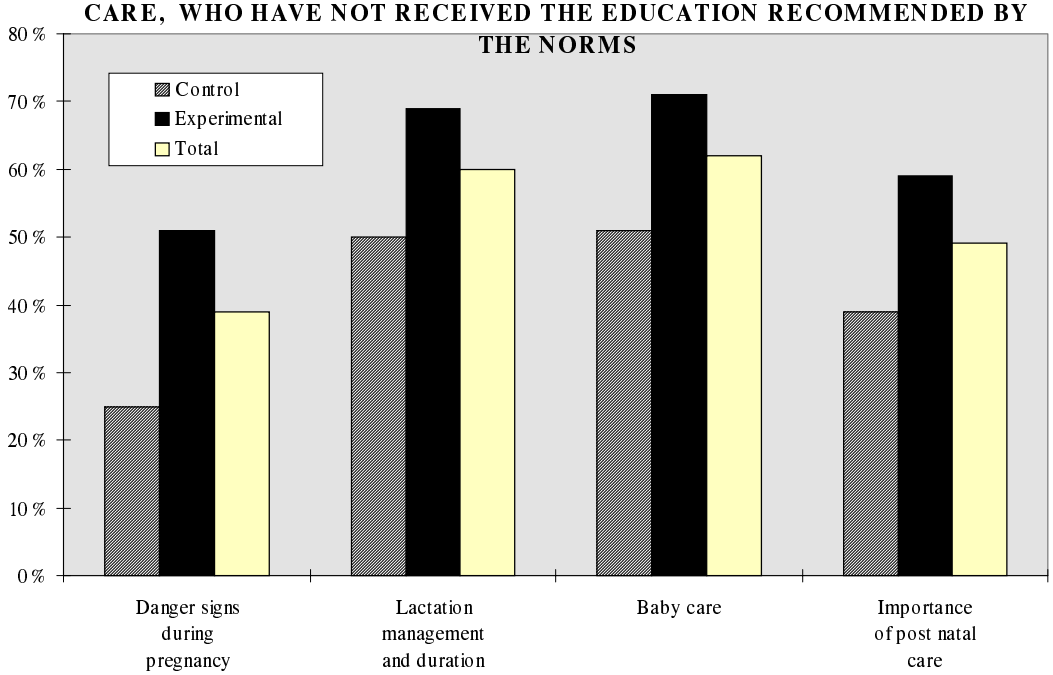


Table 10 and Figure 6 show that even though few opportunities to provide prenatal care are lost, many opportunities to provide the education required by the norms for pregnant women are not used. Of those women who had been pregnant for six or more months, nearly 40% did not know the danger signs during pregnancy or what kind of births need to be attended at a hospital. Over half of the women had not received education on lactation or family planning. Women attending experimental group health centers were less likely to have received the educational

FIGURE 6

PERCENT OF WOMEN 6-9 MONTHS PREGNANT, ATTENDING PRENATAL CARE, WHO HAVE NOT RECEIVED THE EDUCATION RECOMMENDED BY THE NORMS

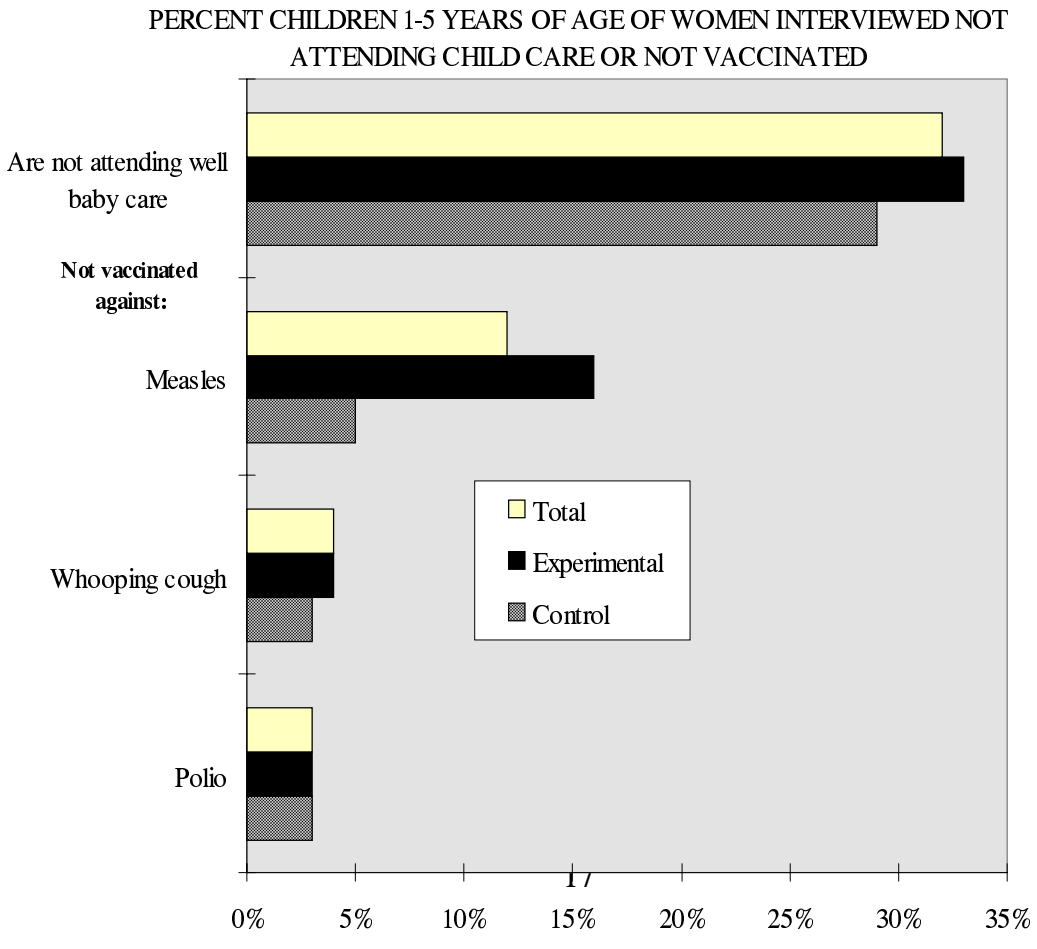


curricula requested by the norms than women in the control group.

The next question posited by the algorithm is whether the woman has a child less than one or than five years of age. Table 11 shows that 268 women had a child less than one year of age. Of these, only 40% had had a post-natal visit. Only 59% had been advised to provide exclusive lactation for six months, and only around 50% had received education on such basic topics as lactational amenorrhea, lactation management, and introduction of other liquids and foods. Once again, training in the algorithm seems not to have worked as a reminder of the education that needed to be provided, since there are no consistent or large differences between the experimental and control groups.

Table 12 shows that 568 women had children less than six years of age. Only about one third of these were asked if they had a child and if he or she was attending well baby care. Less than one half were asked about immunization of their children, and less than five percent were given an appointment for a talk on any of the listed topics. Table 13 repeats the analysis in Table 12 selecting only women who had come to the health center for reasons of their own (and not of their child). Since the woman is not accompanied by her child, the providers would have to make a special effort to screen for the need of child health services, and using the algorithm would be specially important to avoid missing opportunities for incorporating the child. Of the 27.8% of the women who had a child less than six years of age and had come to the health center for reasons of their own (and not of their child), less than a third were asked if they had children, and less than one fourth were asked about their attendance to well baby care, about their

FIGURE 7



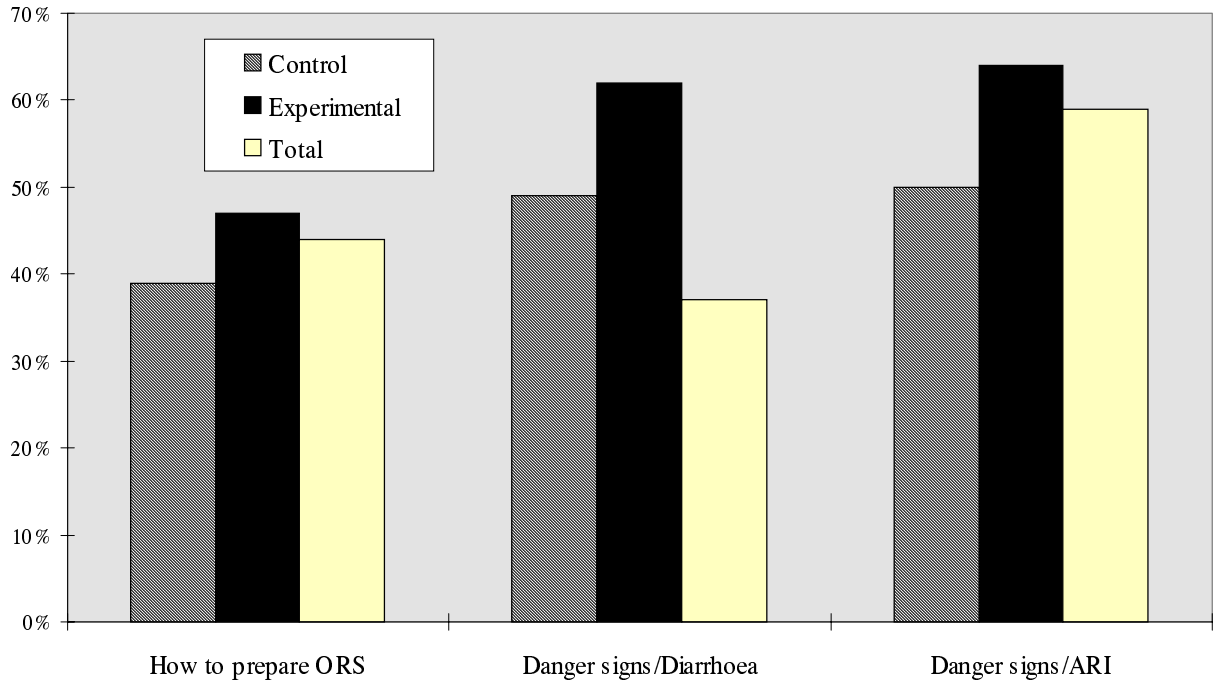
immunizations and about their nutrition practices. There were only slight, not significant differences between the experimental and control groups.

Table 14 and Figure 7 show that by not asking women about their children and their use of services, the health centers are missing 23% of children under one year of age and 32% of children 1-5 years of age that should be attending well baby care. In addition, they are missing a few children who have not been immunized. Considering children 1-5 years of age, about 3% of the children of women attending the health centers had not been vaccinated against polio, 4% against whooping cough, and 12% against measles. Table 15 shows that in terms of child care, by far the greatest opportunities lost are in the areas of education of mothers on topics such as how to prepare oral rehydration salts, and danger signs in case or ARI or diarrheal disease, topics in which less than one half of the mothers had received education. No effect of the use of the algorithm could be identified (also see Figure 8).

The following questions in the algorithm explore the desire for an additional pregnancy

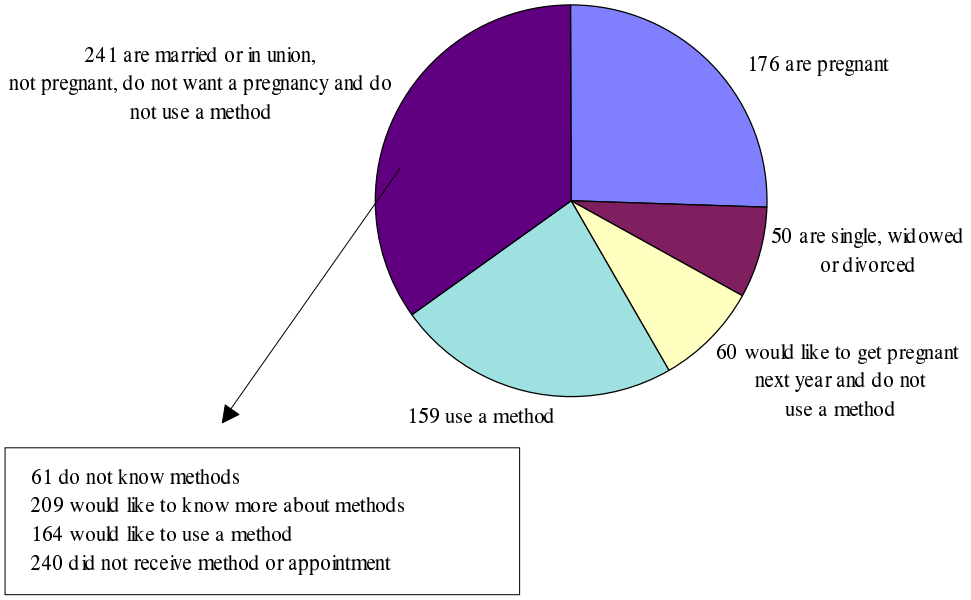
FIGURE 8

PERCENT OF WOMEN WITH CHILDREN LESS THAN SIX YEARS OF AGE WHO HAVE NOT RECEIVED THE EDUCATION RECOMMENDED BY THE NORMS ON:



during the following year and the use of contraceptive methods. Table 16 shows that of the 695 women interviewed, 25% were pregnant and 7% presumably were not sexually active. The remainder 66% were married or in union and not pregnant. Table 17 and Figure 9 show that only 60 of these 461 women wanted a pregnancy during the following year, and that an additional 159 were already using a contraceptive method. The remainder 241 women (52% of those married and not pregnant, and 35% of all the women interviewed) were sexually active, did not want to

FIGURE 9
DISTRIBUTION OF 685 WOMEN ACCORDING TO REPRODUCTIVE INTENTIONS



get pregnant, but were not using a contraceptive method. Table 18 shows that 87% of these women would like to know more about contraceptive methods, and that 68% said they would like to use a method. However, only one third were offered some information and only one woman was given a method or an appointment for family planning. Training in the algorithm seems to have been effective in motivating service providers to give information about contraceptive methods to women, but not effective in motivating them to actually provide the service to women in need of it.

Table 19 shows that less than half of the women were asked about their reproductive intentions and advised on coming to prenatal care as soon as they achieved their desired pregnancy. This too was much more likely in the experimental than in the control group.

Finally, Table 20 shows the degree to which opportunities to reinforce correct method use and increase the satisfaction of users with their method are used. only around a third of all women were asked about side effects with their method and received refresher instructions on how to use their method. This last action was much more frequent in the experimental than in the control group. Other elements of high quality care, like insuring users of the possibility of changing their method when they wished to do so, or giving a follow-up appointment, was followed only with less than one half of the users.

To summarize the results of this section: missed opportunities for providing needed reproductive health care include: letting know 29% of women about the availability of family planning services; giving a method to 25% of all women who are sexually active, are not pregnant, do not want to get pregnant, are not using a method and would like to use one; provide

vaccination against tetanus to 15% of women attending prenatal care; give prenatal care to 3% of pregnant women who visit the health centers; incorporate 23% of children to well baby care services; and provide immunizations against measles to 15% of the children aged 1-5, who are children of women attending the health centers.

6.2 Interviews with the Staff of Health Centers

A qualitative follow-up in experimental group health centers and posts was conducted during December, 1996, and January, 1997. The follow-up showed that nearly all service providers knew the algorithm and had received training in their use. Most of them felt the algorithm had the intention of increasing the use of family planning, but not of other reproductive health services. After three months, they reported using the algorithm on about 50% of their patients, but only a few of them seemed to have a certain degree of fluidity in its use. Although the algorithm was displayed on tables and walls, few used them as a reminder; most believed it had to be committed to memory. Most said they had received the algorithm and guide some three months after their training. Even though most showed good counseling skills, most did not systematically offered services. Rather, they thought of this as an additional activity to their routine work. Those who used the algorithm did not adhered to it strictly. When family planning was offered as a service, it was not offered in the terms recommended by the guide.

Most service providers felt it was easier to use the algorithm with younger than with older women. The main obstacle for the use of the algorithm was the time it required.

Only in one of the districts visited the director followed up with service providers the results of using the algorithm. Nurses supervised only a little more. No cases were found in which service statistics were followed up or discussed in order to assess the impact of using the algorithm.

Regarding the algorithm, most felt it was useful and complete. Several suggested that its name was changed. The names • steps• and • guide• were suggested.

Regarding the guide, it was perceived as complete, clear and a good back up for clearing doubts.

In conclusion: although the algorithm seemed to be used in all health centers and posts, its use was partial and asystematic. Most perceive the algorithm as a tool to promote family planning services and have adapted it for this end, dropping the sequence of actions. One of the main factors impeding the institutionalization of its use was the lack of monitoring and supervision by area, district and health center authorities. Nonetheless, most service providers feel it has been a useful tool that has motivated to be more proactive in offering family planning services.

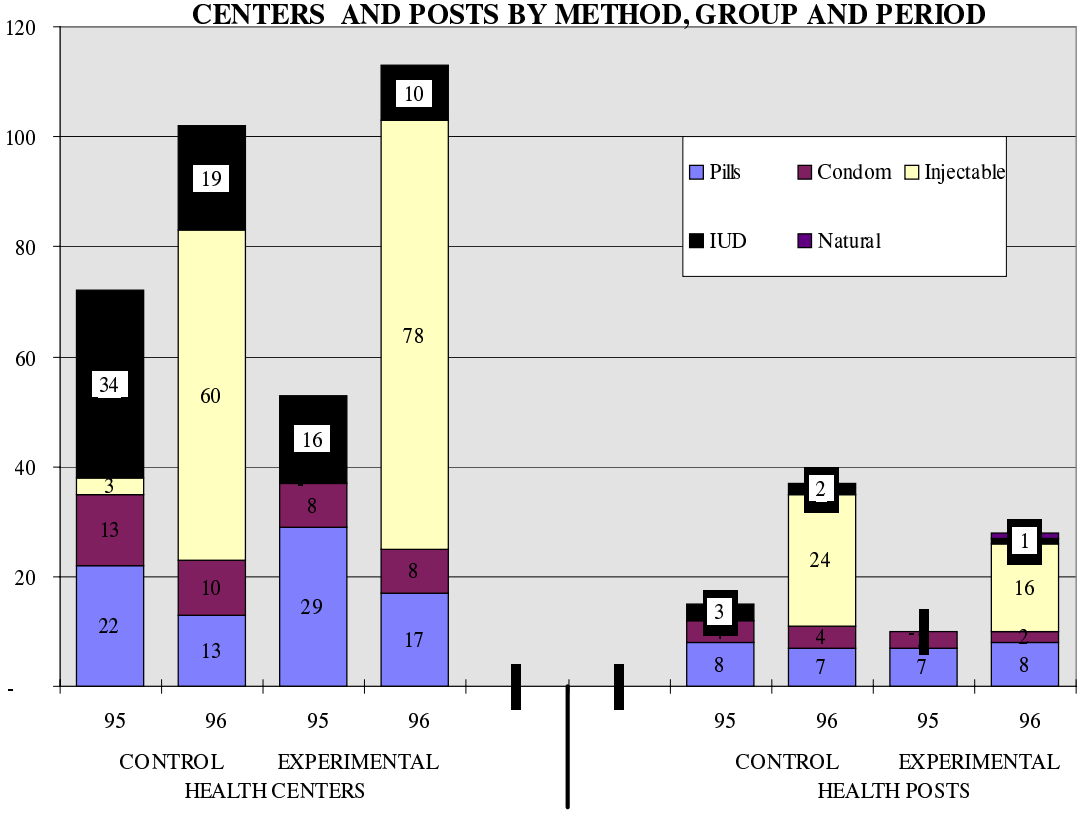
6.3 Service Statistics.

The service statistics of all participant health centers and posts were collected to assess the effect of the use of the algorithm on the output of services. Given that the purpose of the algorithm is to detect opportunities for meeting the reproductive health needs of clients, the systematic use of the algorithm should be reflected in an increase in the number of services provided.

Table 21 shows that the use of the algorithm in the experimental group was not accompanied by a consistently greater increase in the number of new prenatal or post-natal care clients, or visits of children under 28 days of age. In most cases, an increase in the output was observed both at control and at experimental group health centers and posts. However, the comparison of these increases between the experimental and control group are not consistent across the different type of services, or across health centers and health posts.

In terms of the number of new family planning clients, however, Table 22 and Figure 10 show that experimental group health centers and posts had a larger increase in the total number of cases than control group health centers and posts. The strong increase in the number of new clients (21% in the control group and 124% in the experimental group) was due to the introduction of injectables. The number of new clients for other methods actually decreased

FIGURE 10
NEW FAMILY PLANNING CLIENTS IN HEALTH CENTERS AND POSTS BY METHOD, GROUP AND PERIOD



between 1995 and 1996 both in the control and, to a lesser degree, in the experimental group. It should be mentioned that this result may have been partly a consequence of the larger number of

new family planning clients that control group health centers and posts had in 1995. The same conclusion is arrived at when the mean number of methods and couple years of protection distributed in 1995 and 1996 by control and experimental group outlets are compared (see Table 23). Whereas control group outlets decreased the number of most methods distributed between 1995 and 1996, a strong increase was observed in experimental group outlets. In terms of couple years of protection, in control group health centers, a decrease of 22% was observed, compared to an increase of 46% in experimental group health centers. However, by the end of 1996, about the same mean number of CYPs were being distributed per outlet in both groups. The acceptance of injectables in both groups is also noteworthy.

In conclusion: the use of the algorithm does not seem to have affected the amount of such reproductive health services as prenatal or postnatal health services, but seems to have had a considerable effect in the output of family planning services. These results seem to be consistent with results presented earlier showing that the number of lost opportunities is much greater in the case of family planning than in other services. Thus, it should be easier to show an effect on family planning services than in other reproductive health services.

VII. RESULTS OF THE EXPERIMENT TESTING THE SEGMENTATION FORMS

A total of 67 community volunteers were trained in the participating ten health posts. By December, 1996, 58 of these remained active. Only one volunteer was under 20 years of age. Thirty three percent were in their twenties, 38% were in their thirties, and the remaining 27% were 40 years of age or older. Only three did not have children, and 58% had one or two children. One half spoke only Spanish and one half spoke also either Ki• che or Mam. All had attended school: 19% two years, 34% 3-4 years, 31% 5-6 years and the remaining more than six years.

The 59 community volunteers that remained active in December 1996 reported having made a total of 1621 household visits and having made 1053 referrals for service. Of this, 27% were for prenatal care, 4% for post-natal care, 7.5% for well baby care, 24% for vaccination of children, 17.5% for family planning, and 20% for other services.

In order to assess the effects of these activities, the service statistics of the nine health posts testing the use of segmentation forms were compared with the service statistics of 19 health posts in the same districts that were not testing the use of segmentation forms.

Because the observation period was very short (the strategy began to be implemented in August 1996), service statistics for the last two and the last trimesters of 1995 and 1996 are presented in Tables 24-26. Table 24 shows that when 1995 and 1996 results are compared, health centers in the experimental group only had a greater increase in the number of new postnatal care clients than the control group for the period July-December. In all other cases, the control group showed a greater improvement than in the control group. Also, the overall productivity levels in both groups were similar.

Table 25 shows that in both groups, there was a large increase in the number of new family planning clients, mostly because of the large acceptability of the injectable contraceptive

(in fact, the number of new pill and condom users decreased between the periods compared). However, the increase was much larger in experimental group posts, so that by the end of the period their productivity in terms of users was nearly twice than the one observed in control group posts. These results are also apparent when we observe the number of contraceptive units and CYPs distributed by experimental and control group health centers during the observed periods.

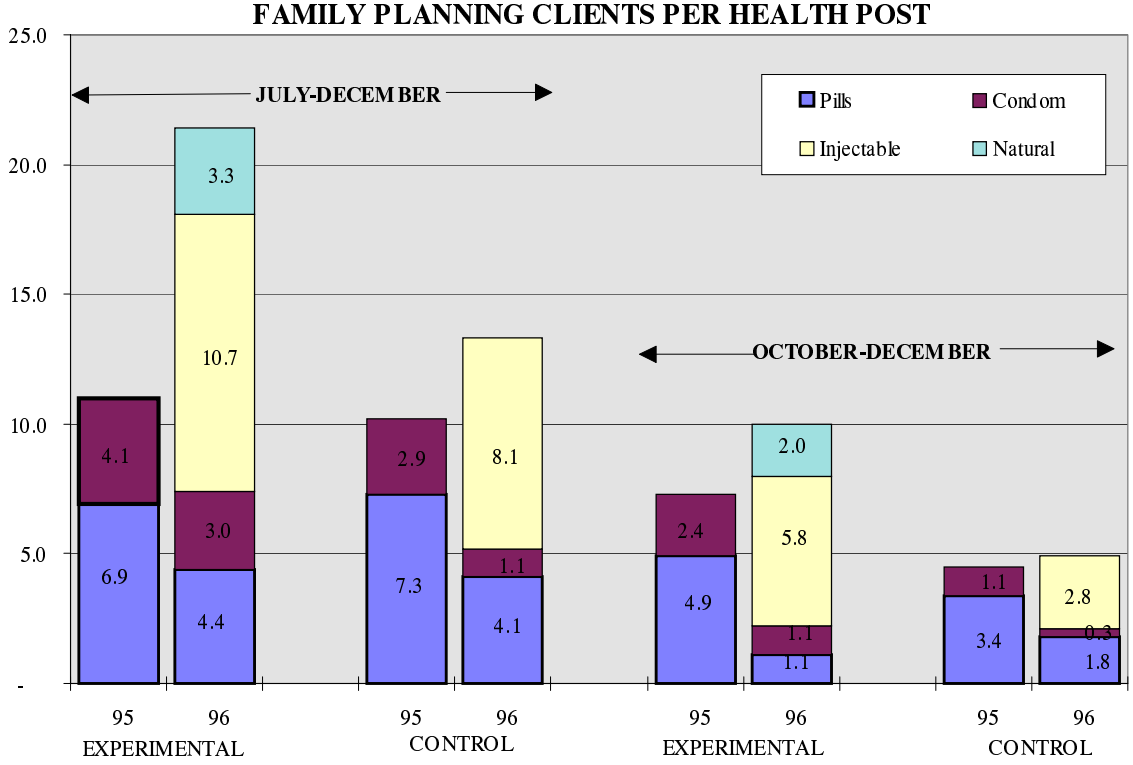
Given the small number in which this experiment took place, it was difficult to find statistically significant differences (most tests are strongly affected by sample size). The only significant differences observed were for the number of condoms and injections distributed in experimental and control groups in the period October-December 1996.

It should be mentioned that statistical analysis trying to separate the effects of the use of the algorithm apart from the effects of the use of segmentation forms were conducted, but no clear results were obtained, again mostly because of the small number of units involved in the study.

In conclusion: as in the case of the algorithm, the use of segmentation forms seems to have had an effect upon the number of new family planning acceptors, but not on the number of new clients of other services. The analysis is somewhat confused by the fact that some participating units were also using the algorithm, and the number of cases included in the experiment did not allow for a separation of the effects of the different strategies.

FIGURE 11

SEGMENTATION EXPERIMENT: MEAN NUMBER OF NEW FAMILY PLANNING CLIENTS PER HEALTH POST



VIII DISSEMINATION AND INSTITUTIONALIZATION

The results of this project and of an INOPAL study of the costs of reproductive health services were presented in two one-day meetings with area and district chiefs of the departments of Quetzaltenango and San Marcos in the last week of February of 1997. At the end of the meeting, participants requested that the strategies tested were extended to districts that participated in the control group and to those that did not choose to participate in the study as members of either the experimental or control groups. To conduct the scaling up of activities, a no cost-extension until of this project was requested until July, 1997. Rather than only replicating the same activities as in the projects, during the no cost extension further evaluation of the algorithm will be conducted, as described in Appendix 7.

In addition, a brochure presenting the main results of this project and the cost study was prepared, printed and widely disseminated among area and district managers, as well as among other international organizations (see Appendix 8).

The results were also presented in private meetings to the head of the MCH division of the MOH and the head of maternal services in that division. They were very interested in continuing working with INOPAL and to extend the use of the algorithm to other departments. It is expected that in the first semester of 1997, a new proposal will be developed to be able to do this. In the meetings, the MOH authorities also mentioned their interest in recommending the use of the algorithm and segmentation forms (or an adaptation of them) in the new version of the MOH norms to be published this year.

Further international dissemination was achieved by means of the publication of an article on integration of reproductive health services in Alternativas, the INOPAL newsletter. In the near future, an article on the experience of projects in Guatemala will be presented to a professional journal, such as Studies in Family Planning or International Family Planning Perspectives.

IX. CONCLUSIONS AND RECOMMENDATIONS

The main purpose of this project was to test strategies to help MOH health centers and posts to provide comprehensive reproductive health care and to increase the number of users of the different services by providing needed services to their routine clientele.

A survey of missed opportunities showed that these were few in the case of those services that the MOH has traditionally emphasized, such as prenatal care and vaccination, but large in the case of those services that have received only marginal attention, such as family planning. The missed opportunities survey also showed, however, that even in those services that were emphasized new clients could be recruited by making a careful screening of the clients needs. In addition, it was observed that many opportunities to recruit clients for educational programs were missed, even in the case of priority programs, such as oral rehydration therapy and prenatal care.

The algorithm seems to have been used asystematically in health centers and to have been perceived by health providers as a tool to promote family planning. For this reason, those who

used it tended to adapt it for promoting family planning and not the other reproductive health services.

As a result of the number of available opportunities and the use of the algorithm as a tool to screen the need for family planning services, the health outlets that used the algorithm showed a greater than expected productivity in family planning services but not in other reproductive health services such as prenatal care, post-natal care and care of recent born. In the case of family planning services, the observed results were somewhat confounded by the simultaneous introduction of injectable contraceptives, a fact which helped all health centers achieve a dramatic increase in the number of new family planning clients.

In the case of the segmentation forms, it was observed that the strategy could be used to recruit health volunteers to provide basic messages and refer users to health posts. The data suggests that there was also an impact on the number of new family planning clients but not of other reproductive health services.

These results lead us to the following conclusions:

1) There is an undoubted need to teach service providers in health centers and posts to do a careful screening of their client• s reproductive health needs.

2) The algorithm is a useful job aid that could help the service providers to achieve this objective. However, further studies should be conducted to see how it can be modified so that it meets the expectation of the providers and it is perceived as a tool to screen for reproductive health needs and not only for family planning needs.

3) A requirement for any strategy to work is to achieve the commitment of area and district chiefs. In this project, this was sorely lacking. Practically no supervision or refreshment were offered after the initial training. There is a need to test new training strategies and contents that help achieve the commitment of the managers of health services.

4) Health volunteers can be recruited, trained and motivated to screen for reproductive health needs in rural communities, provide basic messages and refer to services. The segmentation forms can help them to do this. Given the weak community outreach program in Guatemala, this strategy should be extended through the MOH system. It should also be expanded so that new services can be incorporated in the segmentation forms.

X. REFERENCES

Encuesta Nacional de Salud Materno Infantil 1987 (ENSMI-87), INCAP and Demographic Health Surveys, Institute for Resource Development, Westinghouse Health Systems. Guatemala.

Encuesta Nacional de Salud Materno Infantil 1995 (ENSMI-95), INE, USAID, NICEF y DHS. Guatemala.

FNUAP, 1995, Guatemala: Informe de la Misión de Programa y Formulación de Estrategias, No. 43.

León, Federico. 1994. El ABC de la atención básica de planificación familiar. Ministerio de Salud, Dirección de Salud Reproductiva. Lima, Perú.

Ministerio de Salud Publica y Asistencia Social (MSPAS), Programa Nacional de Salud Materno Infantil, 1988. Manual de Normas y Guías de Atención Materno Infantil. Guatemala.

Ministerio de Salud Publica y Asistencia Social (MSPAS), 1989. Red de Establacimientos del MSPAS. Guatemala.

Ministerio de Salud Publica y Asistencia Social (MSPAS) y The Population Council, 1993. Análisis Situacional del Programa de Planifición Familiar, Guatemala.

The Population Council, 1994. Informe de la Segunda Conferencia Latinoamericana de Investigación Operativa y la Aplicación de Resultados. Mexico.

UNICEF, 1995. The State of the World• s Children. Oxford University Press, New York.

LIST OF TABLES

TABLE 1

HEALTH CENTERS AND POSTS PARTICIPATING IN THE ALGORITHM EXPERIMENT BY GROUP

EXPERIMENTAL GROUP DISTRICTS			
AREA	DISTRICT (Health Center)	HEALTH POSTS (N)	LOCATION OF HEALTH POSTS
Quetzaltenango	Quetzal-tenango	3	La Esperanza, San Mateo, San José Chiquilajá
Quetzaltenango	Palestina de los Altos	3	El Carmen, Buena Vista, El Edén
Quetzaltenango	San Martín Sacatepequez	1	Concepción Chiquirichapa
Quetzaltenango	Zunil	3	Almolonga, La Estancia de la Cruz, Santa María de Jesús
Quetzaltenango	El Palmar	2	Nimina, Calahuache
Quetzaltenango	Sibilia	2	La Unión, Chuicabal
Quetzaltenango	Cabrican	5	La Ciénega Grande, Huitán, Vixben, La Esperanza, Paxoj
Quetzaltenango	Colomba	4	La Florida, La Moka, Fores Costa Cuca, Las Mercedes
San Marcos	San Pedro Scatepequez	9	Provincia Chiquita, Corral Grande, Sacuchún Dolores, San Pedro Petz, El Cedro, San Antonio Sacatepequez, Sto. Domingo Sacatepequez, Sta. Teresa, El Chim
San Marcos	Tajumulco	5	Pueblo Nuevo, Chanchicupe, Toninchum, Totana, San José la Paz
San Marcos	Concepción Tutuapa	4	Tuismo, Tuichuna, Antigua Tutuapa, Sochel
San Marcos	Malacatán	6	El Carmen Frontera, La Unión, Catarina, El Sitio, Sisiltepeque, San Gregorio

CONTROL GROUP DISTRICTS			
Quetzaltenango	Coatepeque	9	Genova, San Rafael Pacaya II, La Felicidad, Las Palmas, Bethania, Reposo, El Rosario, Guadalupe, Nuevo Chuatuj
Quetzaltenango	Salcajá	3	Olintepeque, Cantel, Xecam
Quetzaltenango	San Carlos Sijá	4	Chiquival, Agua Caliente, Calel, San Francisco La Unión
San Marcos	San Marcos	9	Serchil, Barranca de Gálvez, San Sebastián, La Montaña, San Cristobal Cucho, Barranca Grande, Las Majadas, El Bojonal, San José las Islas
San Marcos	Comitancillo	2	Tuimuj, Tuilelén
San Marcos	San Miguel Ixtahuacan	2	El Triunfo, Sicabe Bella Vista

TABLE 2

HEALTH POSTS PARTICIPATING IN THE USE OF SEGMENTATION FORMS EXPERIMENT BY DISTRICT AND GROUP

HEALTH POSTS/COMMUNITIES	**HEALTH DISTRICTS**
CONTROL GROUP	
EL ROSARIO, GENOVA	COATEPEQUE
LA FELICIDAD,	COATEPEQUE
PACHAJ	SALCAJA
XECAM	SALCAJA
CHIQUIVAL,	SAN CARLOS SIJA
EXPERIMENTAL GROUP	
SAN JOSE BUENA VISTA	PALESTINA
LA ESPERANZA	QUETZALTENANGO
SANTA MARIA DE JESUS,	ZUNIL
CONCEPCION CHIQUIRICHAPA	SAN MARTIN SAC.
CALAHUACHE	EL PALMAR

TABLE 3

TOTAL NUMBER OF HEALTH AGENTS TRAINED AND MEAN TEST SCORES
BY GROUP AND TYPE OF HEALTH AGENT

TYPE OF AGENT	TOTAL NUMBER TRAINED			TEST SCORES		
	EXPERI-MENTAL	CONTROL	TOTAL	BASE-LINE	END-LINE	DIF
PHYSICIAN	14	4	18	74	76	2
PROFESSIONAL NURSE	15	6	21	64	86	22
AUXILIARY NURSE	83	48	131	54	82	28
RURAL HEALTH TECHNICIAN	4	6	10	51	77	26
OTHER	6	6	12			
TOTAL	122	70	192			

TABLE 4

DISTRIBUTION OF WOMEN INTERVIEWED IN FIRST ROUND OF EXIT INTERVIEWS ACCORDING TO POSITION IN ALGORITHM AND PERCENT SCREENED FOR FAMILY PLANNING SERVICES AND EDUCATION BY GROUP

POSITION IN ALGORITHM	NUMBER		% SCREENED		% WHO RECEIVED FP EDUCATION		% WHO RECEIVED FP SERVICE/ APPOINTMENT	
	CONT	EXP	CON	EXP	CON	EXP	CON	EXP
NOT MARRIED	2	3	---	---	0	0	---	---
PREGNANT	48	39	---	---	48	54	---	---
RECENT BIRTH	1	21	0	20	100	5	0	5
CHILD LESS THAN ONE YEAR (Including recent birth)	25	47	20	40	33	49	8	12
WOULD LIKE PREGNANCY	5	7	20	42	40	42	20	42
USES METHOD	9	17	67	42	---	---	100	75
WANTS FAMILY PLANNING	2	9	---	---	50	66	50	55
DOES NOT WANT FP NOR PREGNANCY	8	12	50	42	87	25	---	---

TABLE 5

NUMBER OF WOMEN WHO RECEIVED OTHER SERVICES THAN THE ONE THAT MOTIVATED THEIR VISIT TO THE HEALTH CENER, BY GROUP.

ADDITIONAL SERVICE	GROUP		
	CONTROL n = 266	EXPERIMENTAL n = 429	TOTAL n = 695
YES	23 8.6%	48 11.2%	71 10.2%
NO	243 91. 4%	381 88.8%	624 89.8%

TABLE 6.

MAIN REASON FOR VISITING THE HEALTH CENTER BY GROUP

MAIN REASON FOR VISITING THE HEALTH CENTER	GROUP		
	CONTROL n = 266	EXPERIMENTAL n = 429	TOTAL n = 695
Own Illness	19 7.1%	85 19.8%	104 15%
Child Illness	48 18%	110 25.6%	158 22.7%
Other adult Illness	3 1.1%	4 .9%	7 1.0%
Prenatal care	76 28.6%	61 14.2%	137 19.7%
Post-natal care	8 3%	1 0.2%	9 1.3%
Well baby care	43 16.2%	27 6.3%	70 10.1%
Immunization of children	40 15%	84 19.6%	124 17.8%
Family planning	18 6.8%	31 7.2%	49 7.1%
Other reason	11 4.1%	22 5.1%	33 4 .7%
Pap test	-----	4 0.9%	4 0.6%

TABLE 7

PERCENT WOMEN WHO KNEW OF SERVICES FOR WOMEN AND CHILDREN AVAILABLE IN HEALTH CENTERS, BY GROUP

SERVICE	GROUP		
	CONTROL n=266	EXPERIMENTAL n = 429	TOTAL n= 695
Family planning	205 77.1%	288 67.1%	493** 70.9%
Prenatal care	259 97.4%	393 91.6%	652** 93.8%
Well baby care	255 95.9%	363 84.6%	618** 88.9%
Immunization	265 99.6%	418 97.4%	683* 98.3%

* $p<.05$ ** $p < .01$

TABLE 8

PERCENT WOMEN WHO KNEW OF SERVICES FOR WOMEN AND CHILDREN AVAILABLE IN HEALTH CENTERS, BY GROUP AND MARITAL STATUS

SERVICE	GROUP					
	CONTROL		EXPERIMENTAL*		TOTAL	
	Married n = 249	Single, widow, divorced n = 17	Married n = 394	Single, widow, divorced n = 33	Married n = 643	Single, widow, divorced n = 50
Family planning	192 77.1%	13 76.5%	264 67%	23 69.7%	456 70.9%	36 72%
Prenatal care	242 97.2%	170 100%	363 92.1%	29 87.9%	605 94.1%	46 92%
Well baby care	239 96%	17 100%	337 85.5%	25 75.8%	576 89.6%	41 82%
Immunization	248 99.6%	17 100%	385 97.7%	32 97%	633 98.4%	49 98%

*two women did not mentioned their marital status

TABLE 9

NUMBER AND MEAN NUMBER OF PRENATAL CARE VISITS AND VISITS AT HEALTH CENTER BY MONTHS OF PREGNANCY AND GROUP

	GROUP					
	CONTROL		EXPERIMENTAL		TOTAL	
VARIABLE	0-3 months (n =8)	> 3 months (n = 82)	0-3 months (n =10)	> 3 months (n = 76)	0-3 months (n =18)	> 3 months (n =158)
Total prenatal care visits:						
0	----	3.7%	20%	2.6%	22.2%	3.2%
1 - 2	25%	50%	70%	48.7%	72.2%	49.4%
3 - 4	75%	30.5%	10%	35.5%	5.6%	33%
5 or +	----	15.8%	----	13.1%	-----	13.9%
mean	.87	3.10	1.1	2.7	1.0	2.7
Visits at health center						
0	25%	4.9%	40%	6.6%	33.3%	5.7%
1 - 2	75%	56.1%	50%	61.9%	61.1%	58.9%
3 - 4	-----	28%	10%	26.3%	5.6%	27.3%
> o = to 5	-----	10.9%	----	5.3%	----	8.2%
Mean	.87	2.39	2.0	2.0	.88	2.24
Total who have received tetanus immunization	-------	87.8%	30%	82.9%	16.7%	85.4%
Mean number of doses	-------	1.9	1.0	2.9	1.0	2.4

TABLE 10

PERCENT PREGNANT WOMEN WHO HAVE RECEIVED EDUCATION ON SELECTED TOPICS REQUIRED BY MOH NORMS, BY GROUP AND MONTHS OF PREGNANCY

VARIABLE	GROUP					
	CONTROL		EXPERIMENTAL		TOTAL	
Number of pregnant women who have attended prenatal care	0-5 months n=32	6-9 months n=52	0-5 months n = 19	6 -9 months n=58	0-5 months n=51	6-9 months n=110
% WHO HAVE RECEIVED INFORMATION ON:						
Danger signs during pregnancy	21 65.6%	39 75%	9 47.4%	28 48.3%	30 58.8%	67 60.9%
Pregnancy care	24 75%	44 84.6%	14 73.7%	35 60.3%	38 74.5%	79 71.8%
How and for how long to breast feed	11 34.4%	26 50%	8 42.1%	18 31%	19 37.3%	44 40%
Family Planning methods for spacing next pregnancy	15 46.9%	25 48.1%	10 52.6%	24 41.4%	25 49%	49 44.5%
Baby care	11 34.4%	25 48.1%	8 42.1%	17 29.3%	19 37.3%	42 38.2%
When it is needed to give birth at hospital	22 68.8%	38 73.1%	11 57. 9%	32 55.2%	33 64.7%	70 63.6%
Importance of post-natal care	22 68.8%	32 61.5%	10 52.6%	24 41.4%	32 62.7%	56 50.9%

TABLE 11

PERCENT WOMEN WITH CHILDREN LESS THAN ONE YEAR OF AGE WHO HAVE RECEIVED EDUCATION ON SELECTED TOPICS, BY GROUP

VARIABLE	GROUP		
	CONTROL	EXPERIMENTA L	TOTAL
Total number of women with children less than one year of age	n = 96	n = 172	n =268
Total who have had post-natal visit	40 41.7%	66 38.4%	106 39.6%
Total breast-feeding	92 95.8%	158 91.9%	250 93.3%
BREAST-FEEDING EDUCATION:			
Give only maternal milk for six months	63 65.6%	94 54.7%	157 58.6%
Lactational aminorrhea	47 49%	78 45.3%	125 46.6%
Lactation techniques and management	36 37.5%	78 45.3%	114 42.5%
Ablactation	56 58.3%	85 49.4%	141 52.6%

TABLE 12

SCREENING OF WOMEN FOR CHILD HEALTH CARE AND EDUCATION NEEDS, BY GROUP

VARIABLE	GROUP		
	CONTROL	EXPERIMENTAL	TOTAL
Number of women who have children less than 6 years of age	n = 211	n = 357	n = 568
WOMEN WHO WERE ASKED:			
If she had children less than six years of age	71 33.6%	99 27.7%	170 29.9%
If her children came to well baby care	80 37.9%	125 35%	205 36.1%
If her children had all vaccines	96 45.5%	167 46.8%	263 46.3%
If she breast feed her youngest child	86 40.8%	118 33.1%	204 35.9%
Women who were adviced on nutrition of baby	46 21.8%	69 19.3%	115 20.2%
Women who were given appointment for a talk on one of this topics	11 5.2%	17 4.8%	28 4.9%

TABLE 13

SCREENING FOR CHILD HEALTH CARE AND EDUCATION NEEDS
OF WOMEN WHO HAD COME TO THE HEALTH CENTER
FOR REASONS OF HER OWN, BY GROUP

VARIABLE	GROUP		
	CONTROL	EXPERIMENTAL	TOTAL
Number of women who came to health center for own reasons (and not for services for children)	73	85	158
WOMEN WHO WERE ASKED:			
If she had children less than six years of age	22 30.1%	24 28.2%	46 29.1%
If her children came to well baby care	13 17.8%	23 27.1%	36 22.8%
If her children had all vaccines	17 23.3%	25 29.4%	42 26.6%
If she breast feed her youngest child	13 17.8%	14 16.5%	27 17.1%
Women who were adviced on nutrition of baby	11 15.1%	9 10.9%	20 12.7%
Women who were given appointment for a talk on one of this topics	6 8.2%	5 5.9%	11 7%

TABLE 14

USE OF SERVICES OF CHILDREN LESS THAN SIX YEARS OF AGE OF WOMEN INTERVIEWED, BY GROUP AND TYPE OF SERVICE

TYPE OF SERVICE	GROUP					
	CONTROL		EXPERIMENTAL		TOTAL	
	less than one year	1 - 5 years	less than one year	1-5 years	less than one year	1-5 years
NUMBER OF CHILDREN	97	261	172	436	269	697
% Who have attended well-baby care during las year	74%	71%	78%	67%	77%	68%
Mean number of visits of those who have attended						
% who have been immunized:						
Polio	86%	97%	92%	97%	90%	97%
Whooping cough	50%	97%	60%	96%	57%	96%
Measles	10%	95%	20%	84%	17%	88%
% who have future appointment	88%	24%	73%	22%	78%	22%

TABLE 15

PERCENT OF MOTHERS OF CHILDREN LESS THAN SIX YEARS OF AGE
WHO HAVE RECEIVED EDUCATION ON SELECTED TOPICS
REQUIRED BY MOH NORMS, BY GROUP

VARIABLE	GROUP		
	CONTROL	EXPERIMENTAL	TOTAL
Total number of mothers with children less than six years of age	n = 211	n = 357	n = 568
% WHO HAVE RECEIVED EDUCATION ON:			
how to prepare ORT fluid	129 61.1%	190 53.2%	319 56.2%
Danger signs in case of diarrhea desease	107 50.7%	135 37.8%	242 42.6%
Danger signs in case of ARI	106 50.2%	128 35.9%	234 41.2%

TABLE 16

DISTRIBUTION OF WOMEN ACCORDING TO PREGNANCY AND MARITAL STATUS BY GROUP

STATUS OF WOMEN	GROUP		
	CONTROL	EXPERIMENTAL	TOTAL
Total number of woman	n= 266	n= 429	n= 695
Total pregnant	90 33.8%	86 20%	176 25.3%
Total single, separated or divorced	17 6.4%	33 7.7%	50 7.2%
Total married or in union, not pregnant	161 60.5%	300 69.5%	461 66.3%

TABLE 17

DISTRIBUTION OF MARRIED WOMEN NOT PREGNANT ACCORDING TO REPRODUCTIVE INTENTIONS AND USE OF CONTRACEPTION BY GROUP

VARIABLE	GROUP		
	CONTROL	EXPERIMENTAL	TOTAL
Total number of women married or in union, not pregnant	n = 161	n = 300	n =461
Would like to become pregnant next year	13 8%	47 15.8%	60 13%
Use a family planning method	56 34.8%	103 34.3%	159 34.5%
Does not use and does not want to get pregnant	92 57.4%	149 49.8%	241 52.2%

TABLE 18

SCREENING AND CARE OF EXPOSED WOMEN WHO DO NOT WANT A PREGNANCY, BY GROUP

VARIABLE	GROUP		
	CONTROL	EXPERIMENTAL	TOTAL
Total number of women married or in union, not using a method and not wanting a pregnancy the following year	n = 92	n = 149	n = 241
% who know family planning methods	73 79.3%	107 71.8%	180 74.7%
% who would like to know more about methods	83 90.2%	126 84.6%	209 86.7%
% who would like to use a method	67 72.8%	97 65.1%	164 68%
% who were given information on methods	24 26.1%	51 34.2%	75 31.1%
% who were given a method or an appointment for family planning	0 0%	1 0.7%	1 0.4%

TABLE 19

PERCENT WOMEN WHO WOULD LIKE TO BECOME PREGNANT WHO WERE SCREENED AND ADVISED, BY GROUP

VARIABLE	GROUP		
	CONTROL	EXPERIMENTAL	TOTAL
Total number of women who would like to become pregnant next year	n =15	n = 58	n =73
Number who were asked if they wanted to become pregnant next year	7 46.7%	31 53.4%	38 52.1%
Number who were recomended to attend prenatal care as soon as they become pregnant	3 20%	30 51.7%	33 45.2%

TABLE 20

USE OF OPPORTUNITIES FOR SERVICE DELIVERY TO CONTRACEPTIVE USERS, BY GROUP

VARIABLE	GROUP		
	CONTROL	EXPERIMENTAL	TOTAL
Total number of women who use a method	n =56	n = 108	n =164
% women who:			
Were asked about side effects	20 35.7%	41 37.5%	61 37.9%
Correct use knowledge was reinforced	15 26.7%	42 38.8%	57 34.5%
Change of method when needed was offered	7 12.5%	25 23.4%	32 19.5%
Were given a method	11 19.8%	41 37.5%	52 31.7%
Were given a follow-up appointment	25 44.8%	49 45.3%	74 45.2%
Total number who came for family planning as main reason	18 38.1%	31 28.7%	49 29.9%

TABLE 21

MEAN NUMBER OF NEW USERS OF REPRODUCTIVE HEALTH SERVICES PER HEALTH CENTER, HEALTH POST AND HEALTH OUTLET BY PERIOD (APRIL-DECEMBER 1995 AND 1996), TYPE OF SERVICE AND GROUP

TYPE OF OUTLET/ SERVICE	CONTROL GROUP (N=)			EXPERIMENTAL GROUP (N =)		
	1995	1996	% CHANGE	1995	1996	% CHANGE
HEALTH CENTERS	***(N=6)***			***(N=12)***		
Children < 28 days	19	89	368%	42	28	-33%
New prenatal care	246	287	17%	228	243	6.6%
New postnatal care	74	82	11%	39	52	33%
Total	339	458	35%	209	323	5%
HEALTH POSTS	***(N=25)***			***(N=43)***		
Children < 28 days	20	23	15%	34	46	35%
New prenatal care	84	100	19%	131	149	13%
New postnatal care	29	26	-10%	53	60	13%
Total	133	149	12%	218	255	17%
ALL OUTLETS	***(N=31)***			***(N=55)***		
Children < 28 days	20	33	65%	36	42	17%
New prenatal care	108	128	18%	154	172	12%
New postnatal care	35	38	9%	49	58	18%
Total	163	199	22%	239	272	13%

TABLE 22

MEAN NUMBER OF NEW FAMILY PLANNING USERS PER HEALTH CENTER, HEALTH POST AND HEALTH OUTLET BY PERIOD (APRIL-DECEMBER 1995 AND 1996), METHOD AND GROUP

TYPE OF OUTLET/ METHOD	CONTROL GROUP (N =)			EXPERIMENTAL GROUP (N=)		
	1995	1996	% CHANGE	1995	1996	% CHANGE
HEALTH CENTERS	***(N=6)***			***(N=12)***		
Pill Cycles	22	13	-40%	29	17	-41%
Condoms	13	10	-23%	8	8	0
IUD	34	19	-44%	16	10	-38%
Injectable	3	60	1900%	0	78	NC
Natural Methods	0	0	0	0	0	0
Total	72	102	42%	69	113	64%
HEALTH POSTS	***(N=25)***			***(N=43)***		
Pill Cycles	8	7	-13%	7	8	14%
Condoms	4	4	0	3	2	-33%
IUD	3	2	-33%	0	1	0
Injectable	0	24	NC	0	16	NC
Natural Methods	0	0	0	0	1	0
Total	15	37	147%	10	28	180%
ALL OUTLETS	***(N=31)***			***(N=55)***		
Pill Cycles	58	20	-65%	36	25	-31%
Condoms	17	14	-18%	11	10	-9%
IUD	37	21	-43%	16	11	-31%
Injectable	3	84	2,700%	0	94	NC
Natural Methods	0	0	0%	0	1	NC
Total	115	139	21%	63	141	124%

TABLE 23

MEAN NUMBER OF CONTRACEPTIVE METHODS DISTRIBUTED PER HEALTH CENTER, HEALTH POST AND HEALTH OUTLET BY PERIOD (APRIL-DECEMBER 1995 AND 1996), METHOD AND GROUP

TYPE OF OUTLET/ METHOD	CONTROL GROUP (N =)			EXPERIMENTAL GROUP (N=)		
	1995	1996	% CHANGE	1995	1996	% CHANGE
HEALTH CENTERS	***(N=6)***			***(N=12)***		
Pill Cycles	293	259	-11%	385	255	-34%
Condoms	890	982	10%	908	522	-42%
IUD	36	20	-44%	15	22	46%
Injectable	0	109	0	24	135	462%
CYP	162	127	-22%	95	138	46%
HEALTH POSTS	***(N=25)***			***(N=43)***		
Pill Cycles	88	73	-17%	98	85	-13%
Condoms	167	186	11%	150	139	-7%
IUD	16	2	-87%	0	0	0
Injectable	0	24	0	0	29	NC
CYP	68	19	-715	8	14	75%
ALL OUTLETS	***(N=31)***			***(N=55)***		
Pill Cycles	123	105	15%	156	119	-23%
Condoms	291	322	11%	304	217	-28%
IUD	19	5	-73%	3	5	66%
Injectable	0	39	0	5	50	900%
CYP	82	38	-64%	25	41	63%

TABLE 24

SEGMENTATION EXPERIMENT
MEAN NUMBER OF NEW USERS OF REPRODUCTIVE HEALTH SERVICES
PER PERIOD, TYPE OF SERVICE AND GROUP

PERIOD/ TYPE OF SERVICE	CONTROL GROUP (N=19)			EXPERIMENTAL GROUP (N=9)		
	1995	1996	% CHANGE	1995	1996	% CHANGE
October - December						
Children < 28 days	2.1	3.0	43%	3.1	1.0	-68%
New prenatal care	17.2	14.6	15%	15.1	14.1	-7%
New postnatal care	3.2	2.6	-9%	3.0	2.0	-33%
Total	22.5	20.2	-10%	21.2	17.1	-19%
July - December						
Children < 28 days	5.3	6.4	21%	95	96	%C
New prenatal care	41.0	40.9	0%	10.4	6.0	-42%
New postnatal care	8.1	6.6	-19%	42.6	44.3	4%
Total	54.4	53.9	-1%	3.4	4.8	41%

TABLE 25

SEGMENTATION EXPERIMENT
MEAN NUMBER OF NEW FAMILY PLANNING
USERS PER HEALTH POST BY PERIOD, METHOD AND GROUP

TYPE OF OUTLET/ METHOD	CONTROL GROUP (N=19)			EXPERIMENTAL GROUP (N=9)		
	1995	1996	% CHANGE	1995	1996	% CHANGE
October-December						
Pill Cycles	3.4	1.8	-99%	4.9	1.1	-77%
Condoms	1.1	0.3	-73%	2.4	1.1	54%
Injectable	0	2.8	NC	0	5.8	NC
Natural Methods	0	0	0	0	2	NC
Total	4.5	4.9	9%	7.3	10	36%
July-December						
Pill Cycles	7.3	4.1	-44%	6.9	4.4	-36%
Condoms	2.9	1.1	-62%	4.1	3.0	-27%
Injectable	0	8.1	NC	0	10.7	NC
Natural Methods	0.1	0	0	0	3.3	NC
Total	10.3	13.3	29%	11	21.4	94%

TABLE 26

SEGMENTATION EXPERIMENT
MEAN NUMBER OF CONTRACEPTIVE METHODS
DISTRIBUTED PER HEALTH POST BY PERIOD, METHOD AND GROUP

TYPE OF OUTLET/ METHOD	CONTROL GROUP (N=19)			EXPERIMENTAL GROUP (N=9)		
	1995	1996	% CHANGE	1995	1996	% CHANGE
October- December						
Pill Cycles	24	19	-21%	26	18	-31%
Condoms	55	24*	-56%	39	71*	82%
Injectable	.17	7 *	NC	0	17*	NC
CYP	2.44	3.45	41%	2.39	6.34	165%
July - December						
Pill Cycles	48	38	-21%	46	39	-15%
Condoms	86	66	-23%	9	140	41%
Injectable	.17	14	NC	0	29	NC
CYP	4.55	11.63	156%	4.53	11.65	157%

LIST OF APPENDICES IN VOLUME II

OPERATIONS RESEARCH FINAL TECHNICAL REPORT

ADDENDUM FOR THE NO-COST EXTENSION PERIOD (APRIL 1 - AUGUST 31, 1997)

Of project

SYSTEMATIC OFFERING OF FAMILY PLANNING AND REPRODUCTIVE HEALTH SERVICES IN GUATEMALA

Prepared by
POPULATION COUNCIL'S INOPAL III PROJECT and
COOPERATIVE AGREEMENT No 520-0357-A-00-4169-00

Ricardo Vernon
Marianne Burkhart
Jorge Solórzano
Felipe Lopez
Berta Taracena

with the collaboration of

MINISTRY OF HEALTH OF GUATEMALA

Guatemala City, Guatemala, July, 1997

ADDENDUM TO THE FINAL REPORT FOR THE NO-COST EXTENSION PERIOD SYSTEMATIC OFFERING OF FAMILY PLANNING AND REPRODUCTIVE HEALTH SERVICES IN GUATEMALA
(April 1 - August 31, 1997)

I INTRODUCTION

In 1996 and 1997, the Ministry of Public Health and Social Assistance (MSPAS) conducted an OR in the departments of Quetzaltenango and San Marcos, with financial and technical assistance from the Guatemala Cooperative Agreement and INOPAL III The purpose of the study was to see the effects of training service providers from the MSPAS health centers and posts in the systematic delivery of reproductive health services using an algorithm The algorithm is a series of seven questions which are asked of all women of reproductive age who seek care in the health centers and posts All the questions are answered with a yes or no, and depending on the response, the service provider either goes on to the next question or delivers the appropriate services In addition to the algorithm, as part of the study, a guide or manual was developed that provides step-by-step detail on the way each of the services should be provided The combination of the guide and the algorithm is called the ALGOSISSAR

The study demonstrated that in the case of services that are traditionally emphasized by the health centers and posts, such as prenatal care and vaccinations, there were relatively few missed opportunities to provide additional needed services However, in the case of family planning, post-partum care, and health education, missed opportunities were the norm In the case of family planning, for example, a fourth of the women who came to the health centers were married, did not want to have more children and were not using any method of family planning The majority of these women reported they wanted to use a method, but a large proportion did not even know that they could obtain methods in the health center The study also demonstrated that many opportunities were missed to provide education about the different services available, the signs and symptoms of danger in pregnancy, and children's diarrheal and respiratory infections, preparation of oral rehydration salts, and other areas An additional cost study demonstrated the cost-savings to be gained from providing all needed services during one visit

The use of the algorithm in experimental group districts had a strong impact in the delivery of family planning services in the last nine months of 1996, the health outlets that used the algorithm had 124% more new family planning users than in 1995, compared with an increase of 21% in control group outlets In terms of couple years of protection (CYP), control group outlets decreased their number by 64%, while experimental group outlets increased it by 41% Nonetheless, a qualitative study conducted among service providers showed that the algorithm was not used in a systematic fashion (with all clients) and that they tended to perceive the algorithm solely as a mechanism for promoting family planning

Given that after the end of the experiment in the use of the algorithm some funds remained, a no-cost extension was requested for the period April 1-August 31, 1997 The objectives of this no cost-extension period were the following

II OBJECTIVES OF THE NO-COST EXTENSION PERIOD

1) Extend training in the use of the algorithm to districts that had participated in the control group during the experiment

2) Test the use of a new training strategy focused on the development of in-clinic skills in the use of the algorithm

III ACTIVITIES

The first activity in the no-cost extension period was the development of a new training strategy The new training curricula emphasized the development of skills in the use of the algorithm This was achieved by means of role playing and direct supervision of the use of the algorithm during service delivery at the health center

To implement training activities, as a first step a workshop for 12 area and district chief nurses was conducted on May 27-29, 1997 The training curricula of this workshop is presented as Appendix 1 The training had a duration of two and one half days of training in health centers The training started with role playing exercises in which the staff of the health center simulated service delivery to clients During the role playing, an observer assessed the number of lost opportunities to provide needed services by the client The format used for assessing lost opportunities is presented in Appendix 2 Immediately after the end of the exercise, the results of the simulated service delivery activities were presented, and then the algorithm was presented to the participants A new role playing exercise was conducted to show how the use of the algorithm reduced the number of lost opportunities After that, the ALGOSISSAR was presented, its contents were explained, and new role playing was conducted In the third day, monitoring and supervision strategies and organization of the services for the use of the algorithm were discussed

After that, project consultants went to each of the 11 participating districts in Quezaltenango In each visit they stayed for three days in the health center During the first day, the consultant directly supervised the use of the algorithm by the chief nurse with their clientele In the second day, the chief nurse and the consultant trained the auxiliary nurses in the use of the algorithm, using the same exercises emphasizing detection of missed opportunities for service delivery during role playing exercises In the third day, the chief nurse and consultant directly supervised the use of the algorithm by the auxiliary nurses within their routine service delivery activities When the supervisor felt that the auxiliary nurse had an adequate competence in the use of the algorithm, the nurse was considered to be "certified "

III RESULTS

In total, two trainer of trainers (one in San Marcos and one in Quezaltenango) and 12 workshops were conducted A total of 122 health center staff members were trained and certified in the use of the algorithm, including six physicians-district directors

The role playing exercises showed that health center staff could easily understand the use of the algorithm after five hours of training The direct supervision in the use of the algorithm proved that the algorithm was effective in detecting opportunities for service delivery Further, this direct supervision was crucial in the development of actual practical skills in the use of the algorithm Two slogans that were used ("All services for all clients" and "Every woman must be protected") helped explain the algorithm

In order to assess the effectiveness of the training, the trainers observed service delivery to 72 health center clients before the training and to 83 clients after the training to service providers As can be observed in Table 1, screening for needs of the different services more than doubled in most cases Information giving also increased dramatically, especially for mothers of children on how to prevent and manage acute respiratory infections and diarrhea In most cases, rather than giving the service in the same visit, most providers gave appointments for a visit or referred to another service In the case of family planning, 19% of all users were given an appointment or referred to other services before the training, compared to 43% after the training Direct service delivery increased from 4% to 7%

Further analysis was conducted by controlling for the reason of the client s visit Similar results to those observed in Table 1 were observed In the case of women who had attended for prenatal care (13 pre training and 15 post training), information giving on post-natal care, lactation, well baby care, vaccinations, family planning, management of acute respiratory infections and of diarrhea increased from less than 20% to more than 50% of the visits In the case of women who had taken their children for vaccination or well baby care (25 pre and 25 post-training), appointments for family planning increased from 16% to 68% of all women, among those who had taken a sick child to the health center (7 pre- and 25 post-training, appointments for well baby care increased from 14% to 24%, and information on management of ARI and diarrhoeal disease from around 30% to over 50% Family planning appointments increased from 0 to 32%, and provision of methods from 0 to 16% Finally, the strategy seems to have worked less well in the case of women who had gone to the health center for an illness of her own (15 pre- and 15 post-training) screening for pregnancies increased from 7% to 27%, and appointments for their children to well baby care from 27% to 54% Information on management of ARI and diarrheal disease also increased substantially However, for family planning service their were no significant changes

The time used by service delivery staff per visit before the training was of 9 33 minutes (standard deviation = 3 13), after the training, this time was 10 42 (S D = 3 98)

IV CONCLUSIONS AND RECOMMENDATIONS

According to the report prepared by the trainers who conducted field activities, the algorithm is a useful instrument Service providers learn it quickly and can use successfully to increase the coverage of services Only one and one-half minutes more are needed to use the algorithm in a given visit The trainers also believed that in-service training with direct supervision is more effective than the classroom training conducted in the earlier experiment The findings presented in this report are consistent with this perception Nevertheless, the results show that the

systematic offer of services was not achieved, and that service providers tended to give appointments for services rather than providing the services themselves This seems to be the consequence of the organization of the services in the health centers and posts, in which one specific day of the week is devoted to provide specific services, such as pre-natal care, well baby care, etc A second barrier for adopting the comprehensive health care focus seems to be the attitude of the physicians/district directors, who are usually reluctant to participate in training and certification sessions of the 12 districts in which training was provided, only one physician allowed himself to be observed during service delivery

To increase the acceptability of the algorithm and the guide, the trainers recommended changing its name to "Algorithm and guide for the systematic offer of maternal-child health services "

In the following months, INOPAL III and the Population Council s staff in Guatemala will continue extending the use of the algorithm A presentation will be made for all health area directors in the Ob Gyn Association annual meeting, a training of trainers will be conducted for representatives of six areas, and direct training will be provided for the staff of all health districts in two health areas, thus more than doubling the extent of the activities conducted in this project to help institutionalize a truly reproductive health program in Guatemala

TABLE 1

PERCENT OF VISITS IN WHICH THE CLIENTS WERE SCREENED, GIVEN INFORMATION APPOINTMENTS OR SERVICES, BY TYPE OF SERVICE PRE- AND POST-TRAINING IN THE USE OF THE ALGORITHM

SERVICE	EXPLORED NEED FOR SERVICE		GAVE INFORMATION		GAVE APPOINTMENT/ REFERRAL		GAVE SERVICE	
	PRE	POST	PRE	POST	PRE	POST	PRE	POST
PRE-NATAL CARE	15	31	18	34	4	9	15	24
POST-NATAL CARE	10	31	14	24	3	5	4	2
LACTATION	10	26	21	66	1	6	0	0
WELL-BABY CARE	12	23	28	45	18	35	10	24
VACCINATIONS-CHILD	40	48	43	49	21	39	35	29
VACCINATIONS-W	8	36	12	42	7	26	17	23
REFRESHER-FP	7	10	10	15	3	4	3	0
FAMILY PLANNING	31	48	35	51	19	43	4	7
ACUTE RESPIRATORY INFECTIONS	7	42	8	43	1	1	1	10
DIARRHOEA/ RHO	12	51	14	41	0	0	10	11
TOTAL NUMBER OF VISITS OBSERVED	72	83	72	83	72	83	72	83

TABLE 1

PERCENT VISITS IN WHICH THE CLIENTS WERE SCREENED, GIVEN INFORMATION, APPOINTMENTS AND/OR SERVICES, BY TYPE OF SERVICE PRE- AND POST-TRAINING IN THE USE OF THE ALGORITHM

SERVICE	EXPLORED NEED FOR SERVICE		GAVE INFORMATION		GAVE APPOINTMENT/ REFERRAL		GAVE SERVICE	
	PRE	POST	PRE	POST	PRE	POST	PRE	POST
PRE-NATAL CARE	15	31	18	34	4	9	15	24
POST-NATAL CARE	10	31	14	24	3	5	4	2
LACTATION	10	26	21	66	1	6	0	0
WELL-BABY CARE	12	23	28	45	18	35	10	24
VACCINATIONS-CHILD	40	48	43	49	21	39	35	29
VACCINATIONS-WOMEN	8	36	12	42	7	26	17	23
REFRESHER-FP	7	10	10	15	3	4	3	0
FAMILY PLANNING	31	48	35	51	19	43	4	7
ACUTE RESPIRATORY INFECTIONS	7	42	8	43	1	1	1	10
DIARRHOEA	12	51	14	41	0	0	10	11
TOTAL NUMBER OF VISITS OBSERVED	72	83	72	83	72	83	72	83